



# Utah Water Assessment & Conditions Monitoring (Drought Webinar)

The meeting will begin shortly



Thank you to our contributors

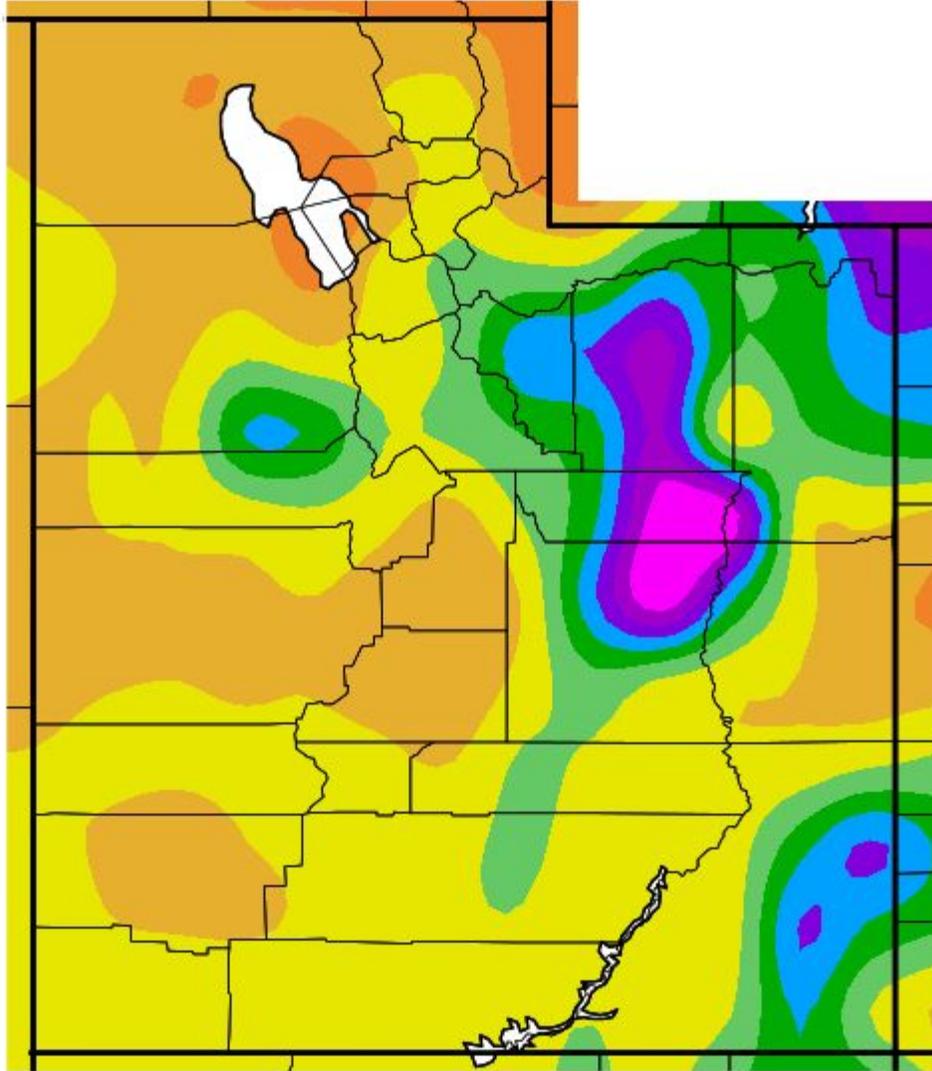




# **Utah Water Assessment & Conditions Monitoring Webinar**

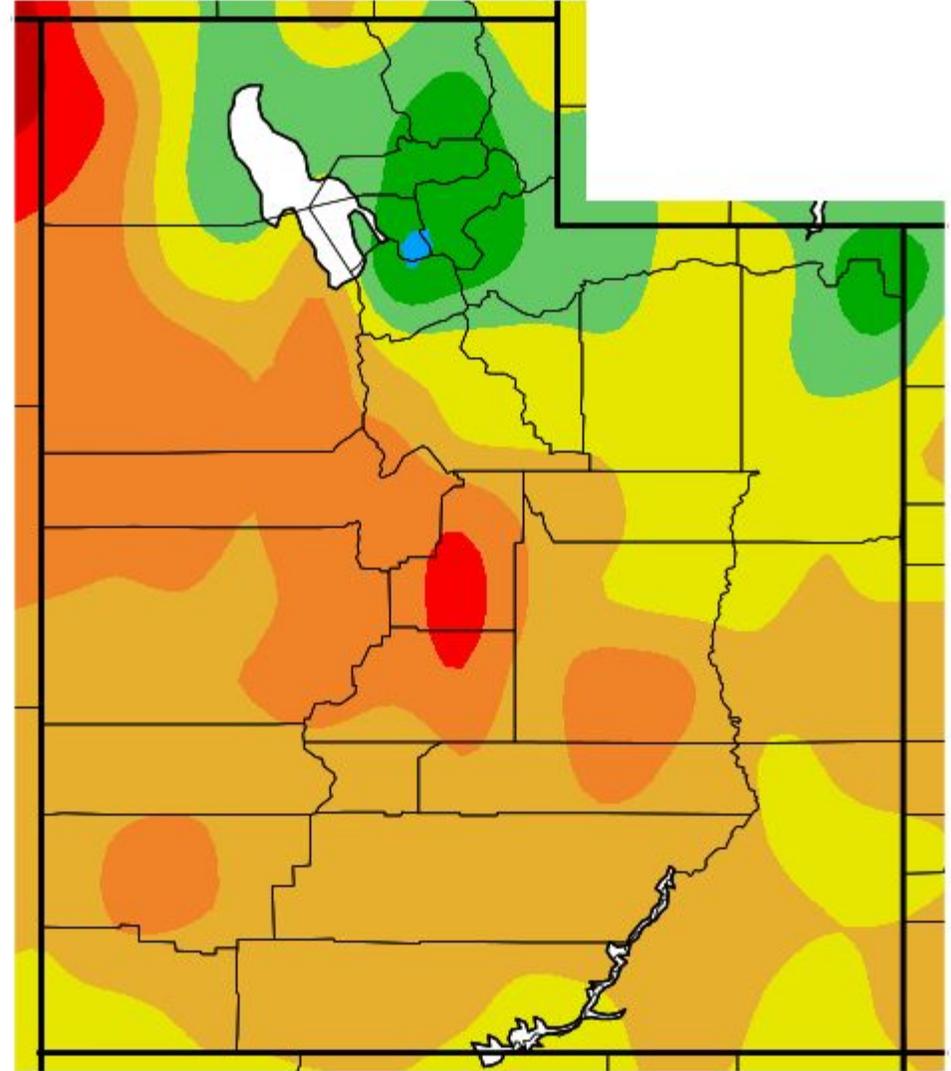
**June 21, 2022**

Precipitation Departure from Average (in.)  
6/14/2022 – 6/20/2022



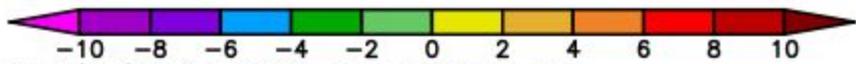
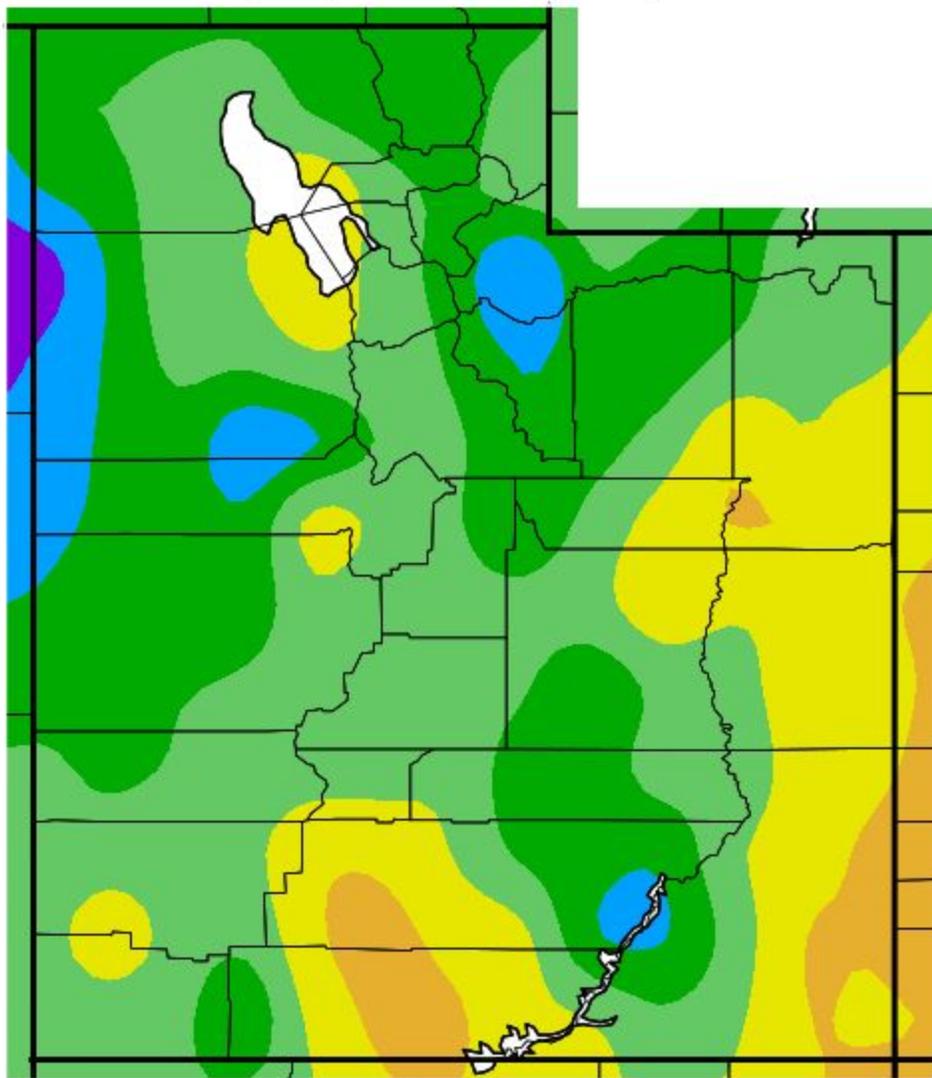
Generated 6/21/2022 at WRCC using provisional data.  
NOAA Regional Climate Centers

Precipitation Departure from Average (in.)  
5/22/2022 – 6/20/2022



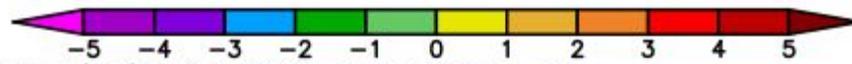
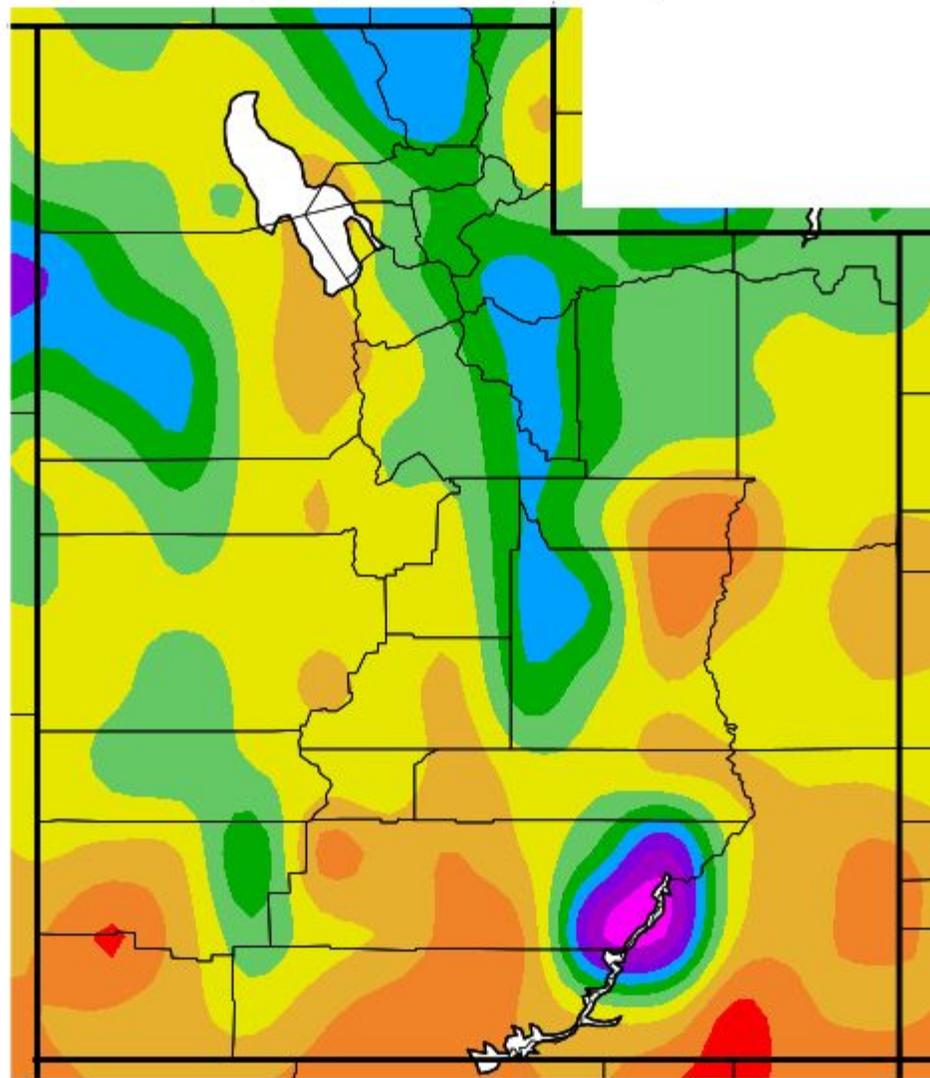
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Ave. Temperature dep from Ave (deg F)  
6/14/2022 – 6/20/2022



Generated 6/21/2022 at WRCC using provisional data.  
NOAA Regional Climate Centers

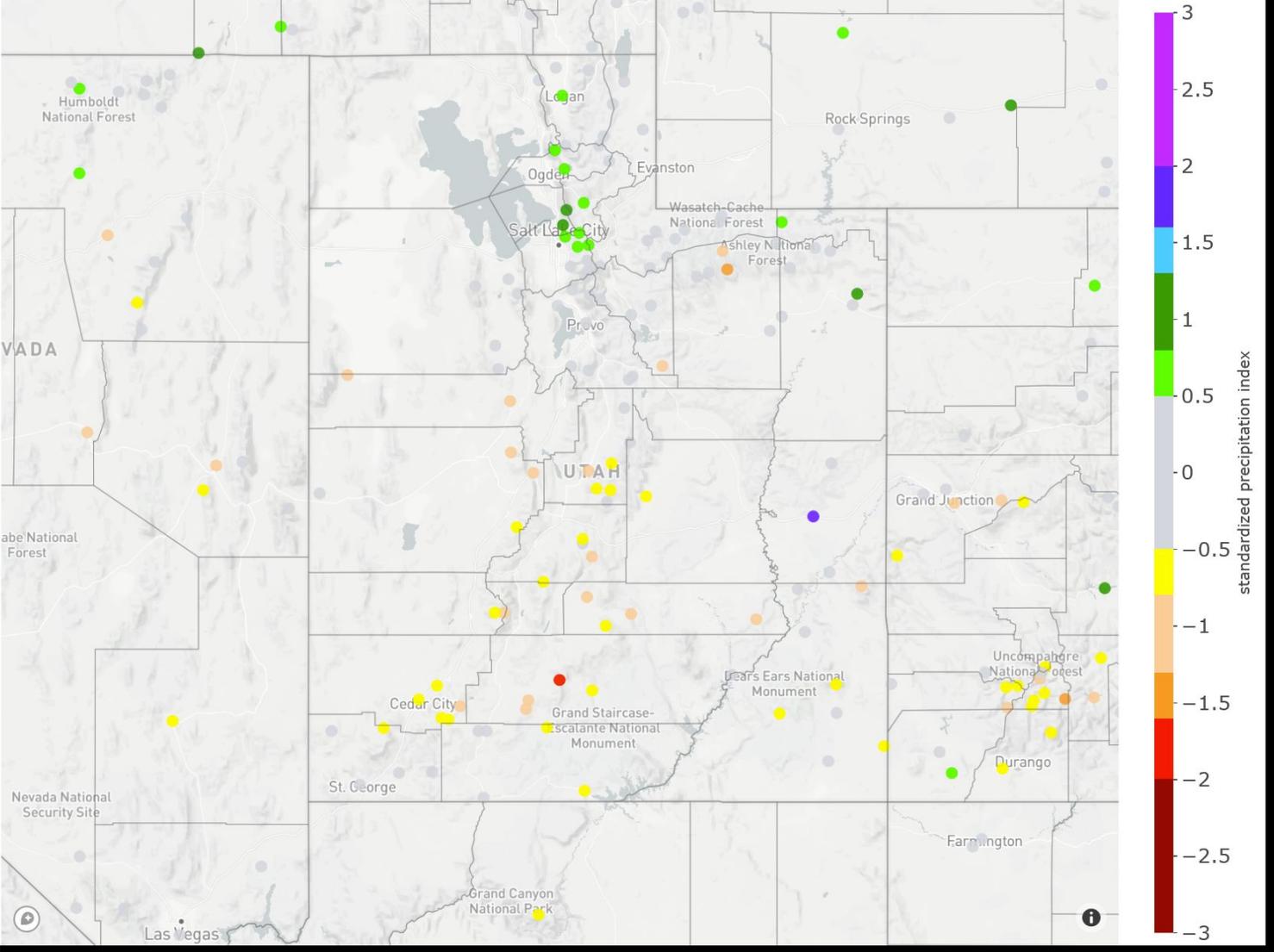
Ave. Temperature dep from Ave (deg F)  
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NOAA Regional Climate Centers

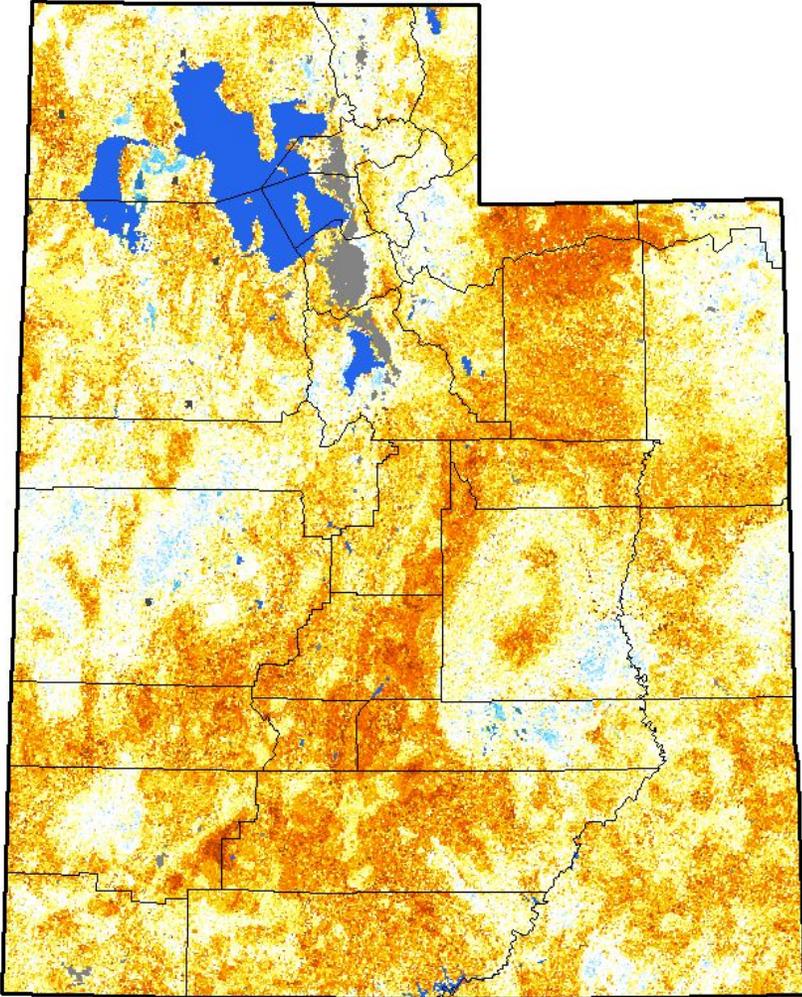
# 30-day Standardize Precip Index

30-day Standardized Precipitation Index: 2022/05/22 - 2022/06/20



Agency - Utah Climate Center  
Presenter - Jon Meyer

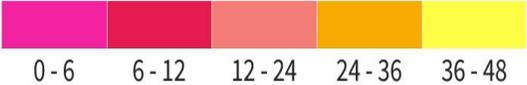
# QuickDri



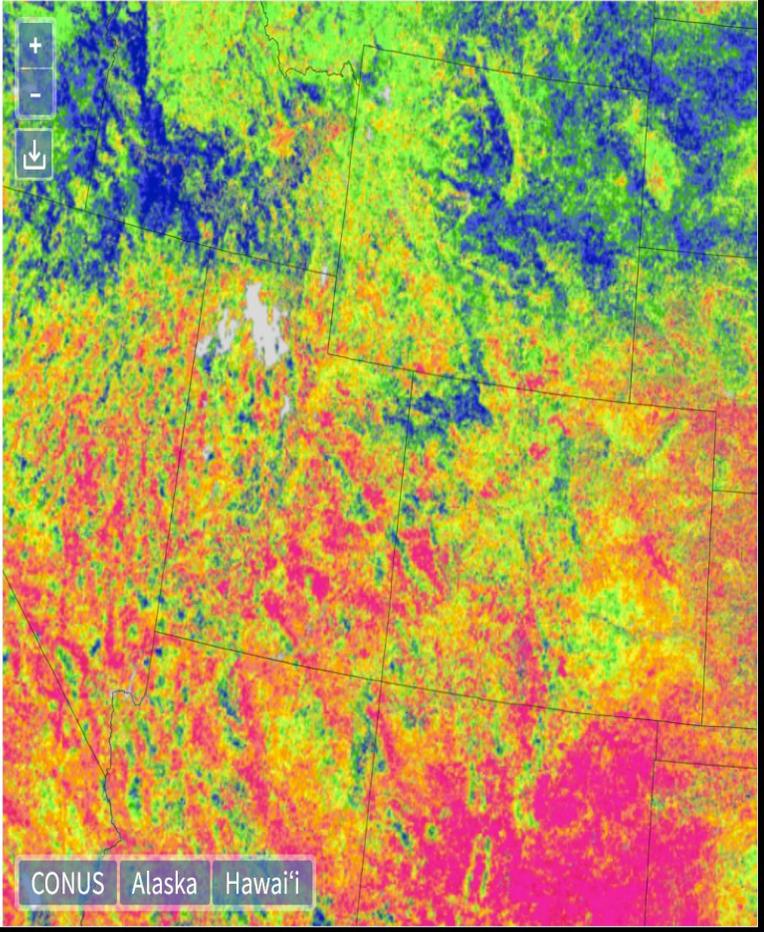
[Evaporative Stress Index](#) [VegDRI](#) [Vegetation Health Index](#)

NOAA's Center for Satellite Applications and Research produces satellite-based global vegetation health products, including the vegetation health index (VHI). VHI is a proxy characterizing vegetation health or a combined estimation of moisture and thermal conditions. Vegetation health is often used to estimate crop condition and anticipated yield. If the indices are below 40, indicating different levels of vegetation stress, losses of crop and pasture production might be expected; if the indices above 60 (favorable conditions), plentiful production might be expected. [Learn more.](#)

### Unfavorable Conditions



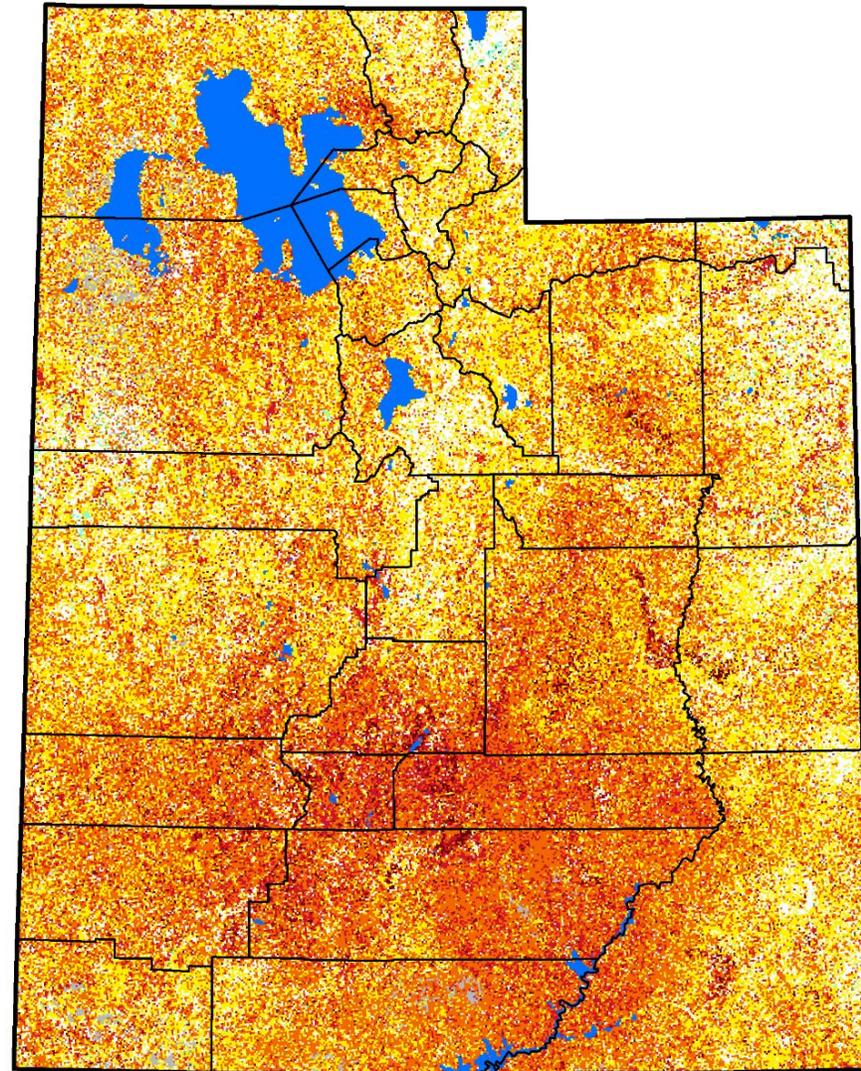
### Favorable Conditions



# Vegetation Drought Response Index

## Complete: Utah

June 19, 2022



### Vegetation Condition

- Extreme Drought
- Severe Drought
- Moderate Drought
- Pre-drought stress
- Near Normal
- Unusually Moist
- Very Moist
- Extreme Moist
- Out of Season
- Water

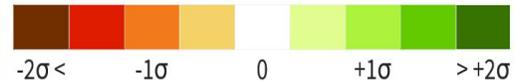


# QuickDri

[Evaporative Stress Index](#) [VegDRI](#) [Vegetation Health Index](#)

The Evaporative Stress Index (ESI) describes temporal anomalies in evapotranspiration (ET), highlighting areas with anomalously high or low rates of water use across the land surface. The ESI also demonstrates capability for capturing early signals of "flash drought," brought on by extended periods of hot, dry, and windy conditions leading to rapid soil moisture depletion. [Learn more.](#)

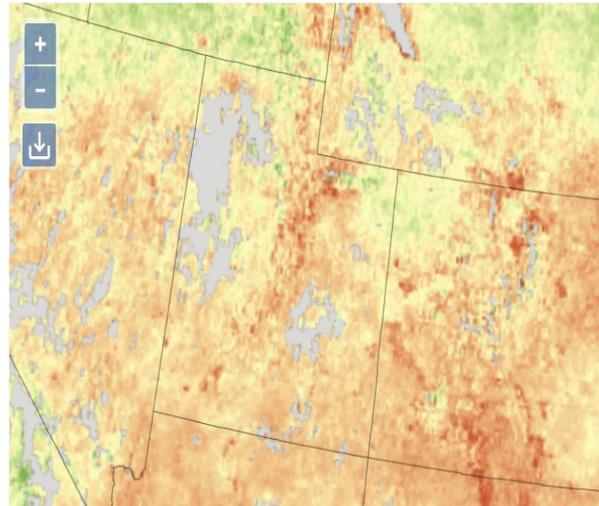
### Standardized ET/PET Anomalies



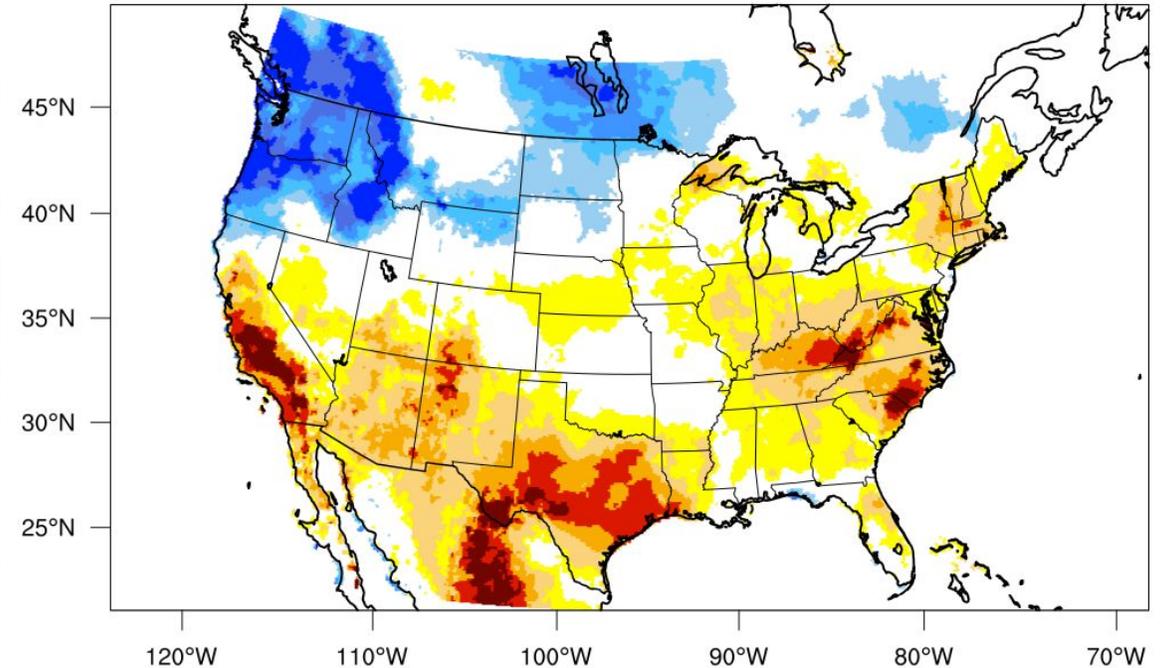
\*Currently, data are only available for the contiguous U.S.

Source(s): [NASA SERVIR](#)

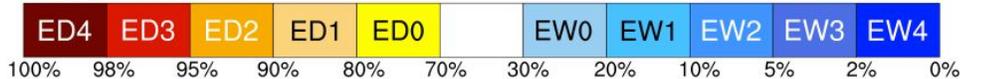
Last Updated



1-month EDDI categories for June 12, 2022



### Drought categories

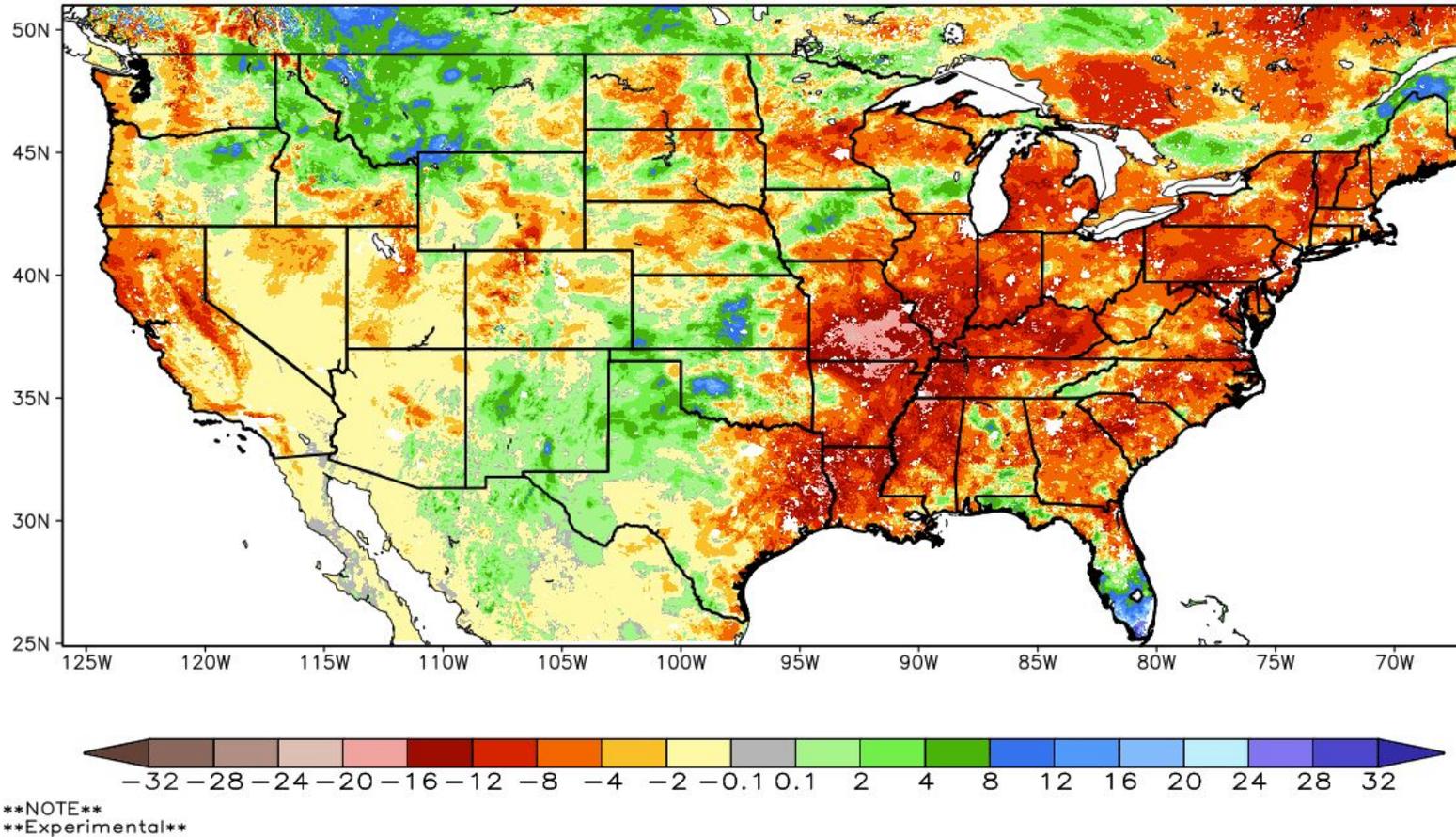


(EDDI-percentile category breaks: 100% = driest; 0% = wettest)

Generated by NOAA/ESRL/Physical Sciences Laboratory

# 1-month soil moisture change

1-Month Difference in Column Relative Soil Moisture (%) valid 12z 21 Jun 2022

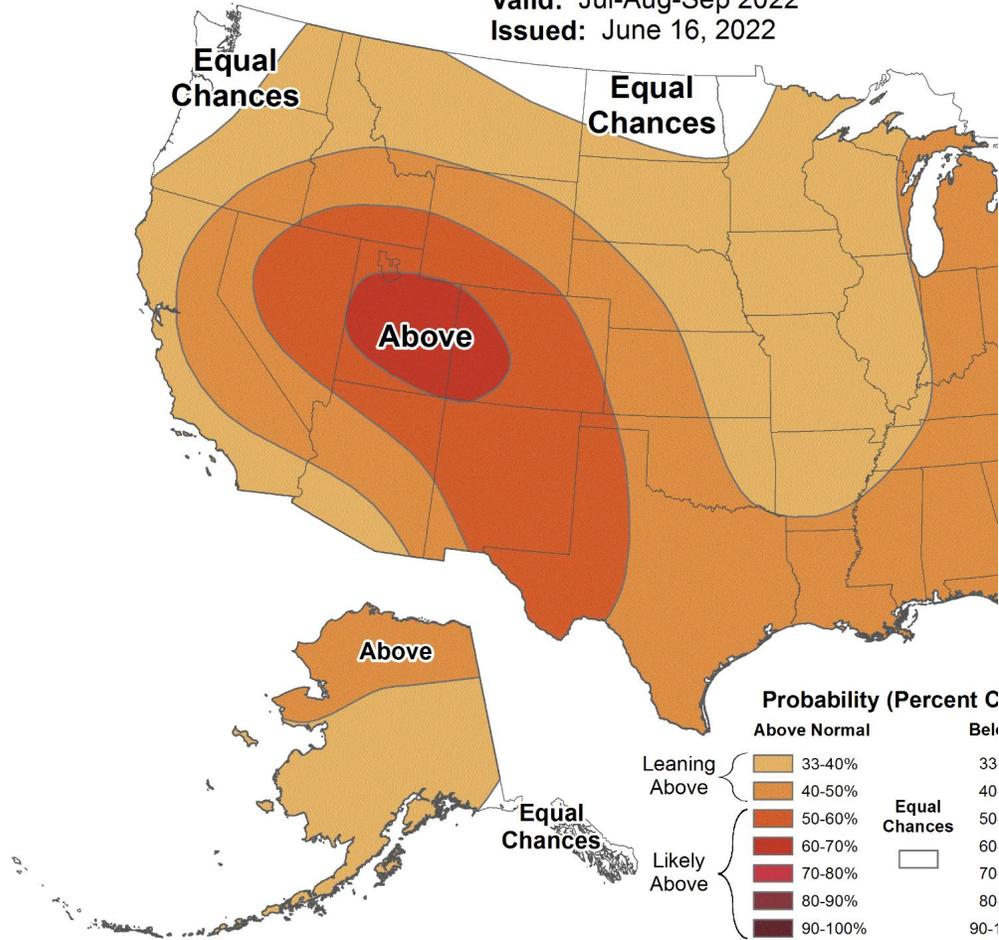


# CPC one-month outlook



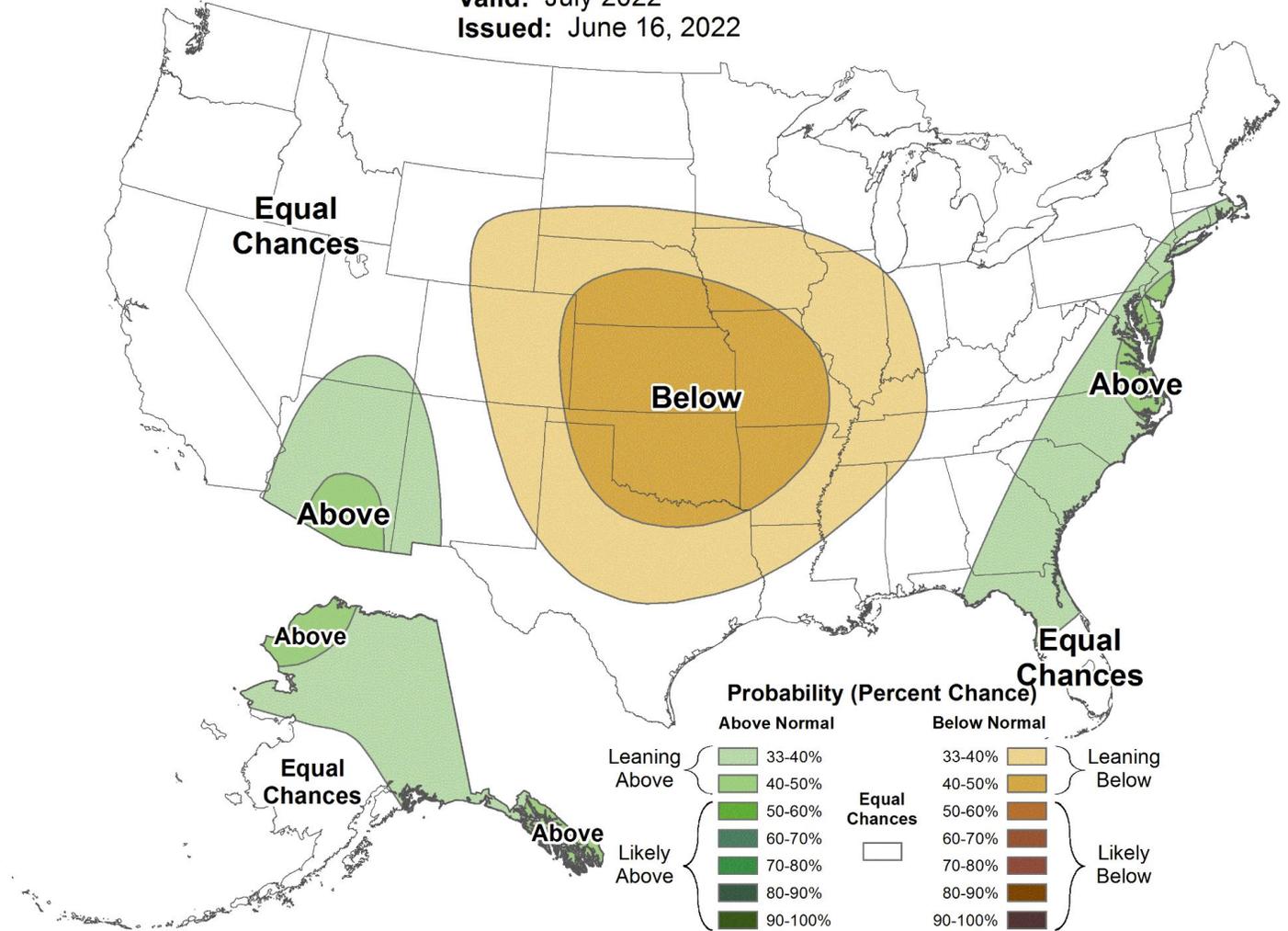
## Seasonal Temperature Outlook

Valid: Jul-Aug-Sep 2022  
 Issued: June 16, 2022



## Monthly Precipitation Outlook

Valid: July 2022  
 Issued: June 16, 2022



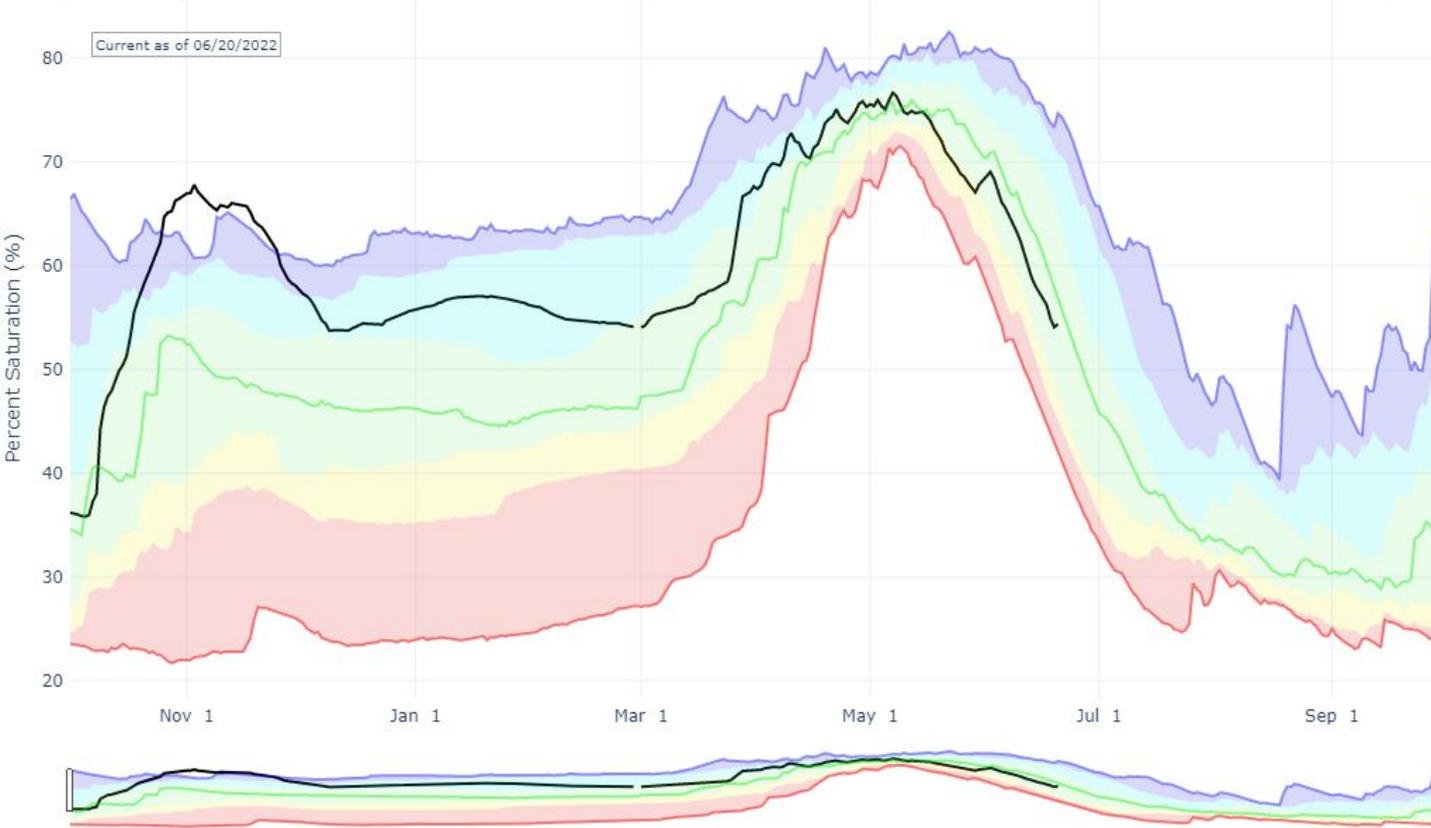
# Soil Moisture

DEPTH AVERAGED SOIL SATURATION IN  
STATE OF UTAH

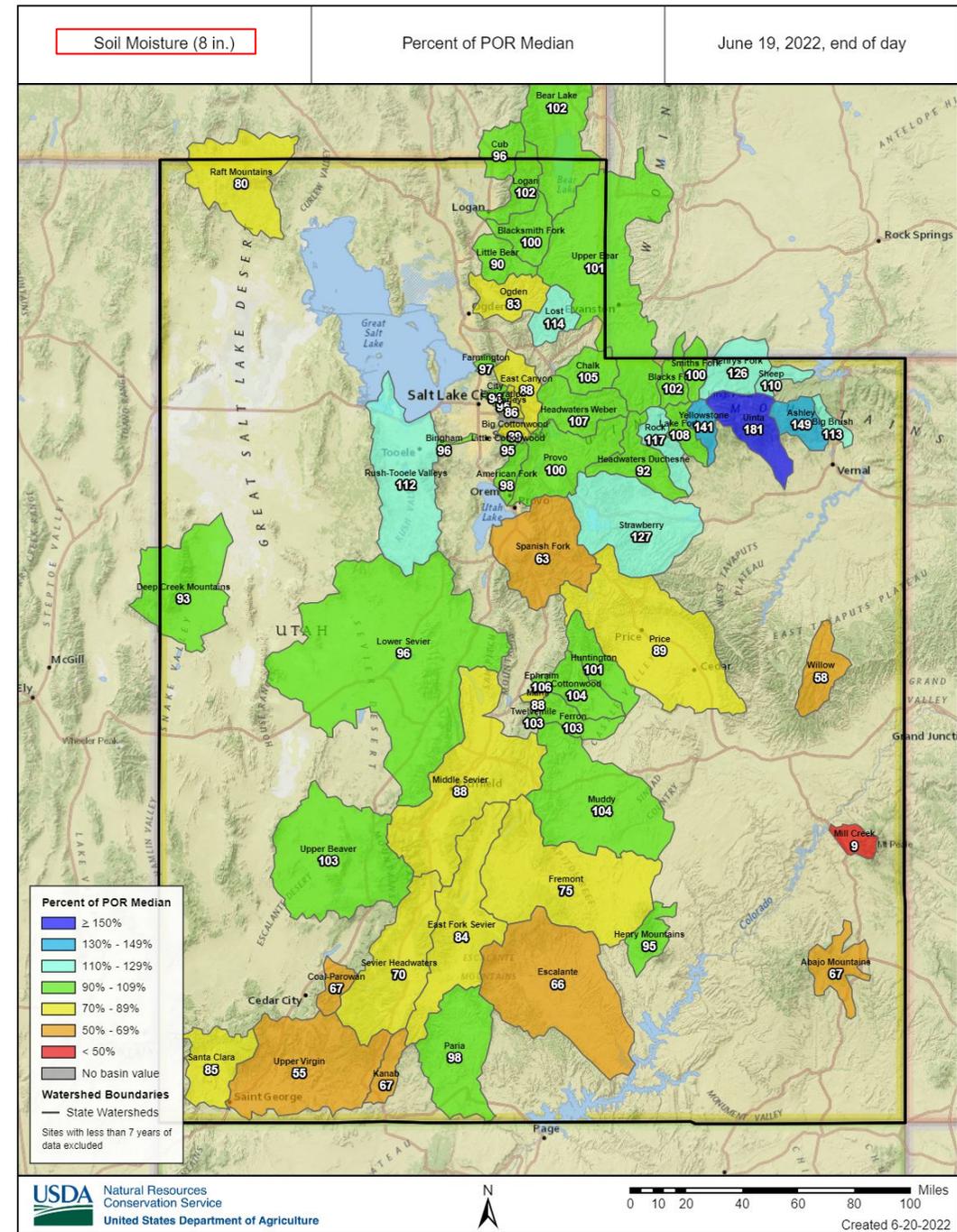
Reset Range

[Link to data: CSV / JSON](#)

Current as of 06/20/2022

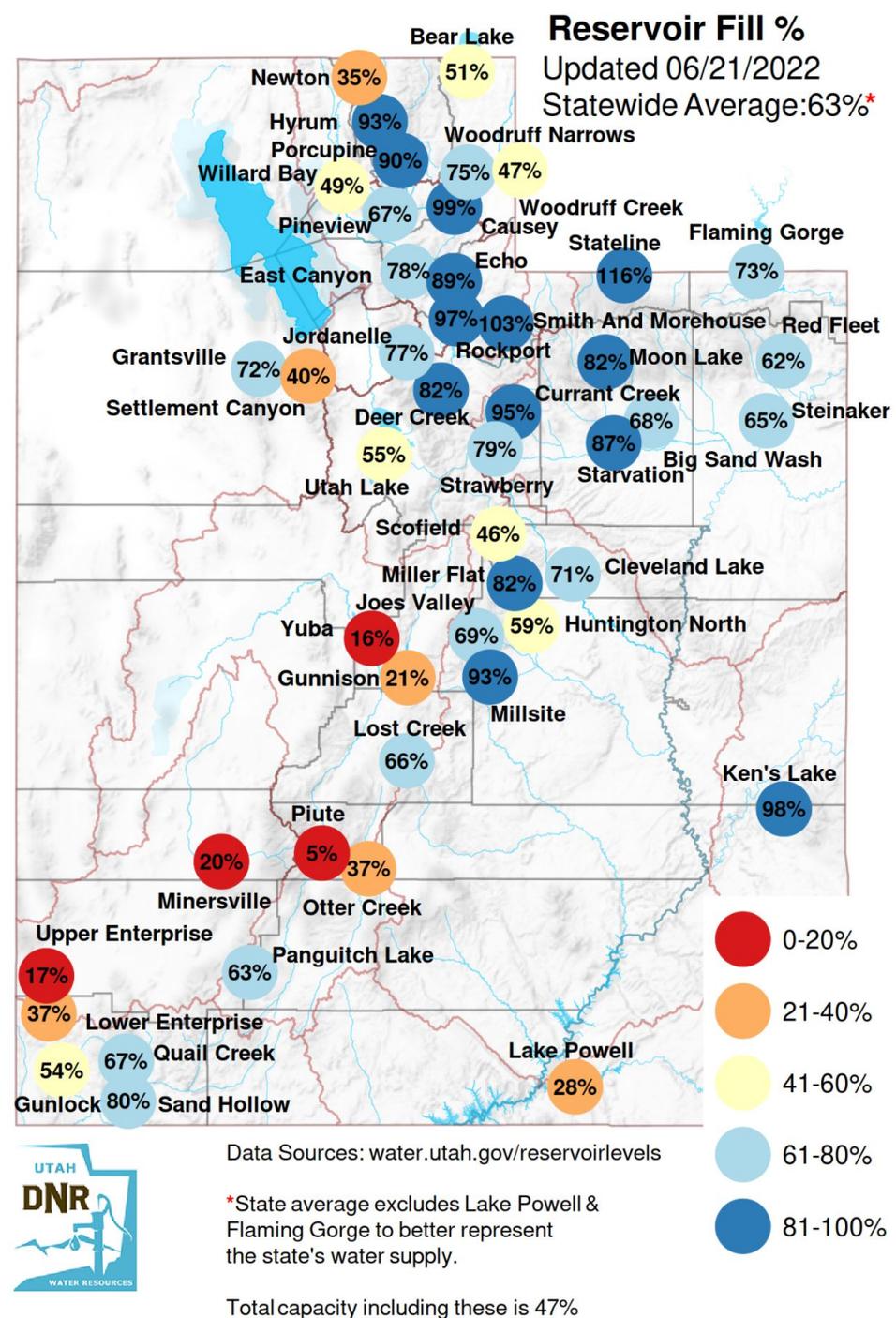


Agency - NRCS Snow Survey  
slide from Jordan Clayton



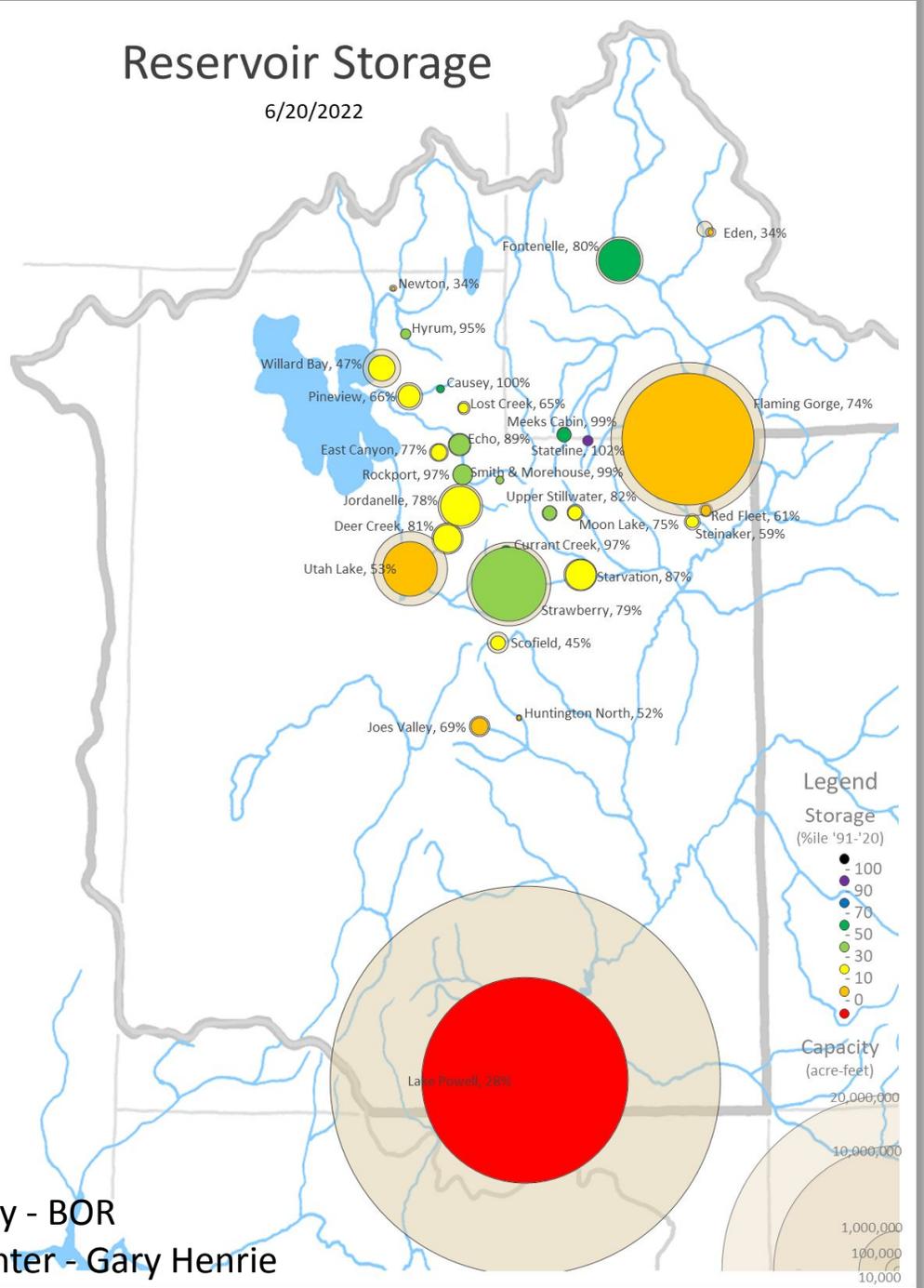
# River Basin Reservoir Storage

Bear River: 52% current, 61% last year  
 Cedar/Beaver: 20% current, 28% last year  
 Sevier: 20% current, 30% last year  
 Uintah Basin: 80% current, 80% last year  
 Utah Lake: 63% current, 72% last year  
 Virgin River: 72% current, 77% last year  
 Weber River: 69% current, 60% last year  
 West Colorado: 62% current, 64% last year  
 West Desert: 64% current, 61% last year



# Reservoir Storage

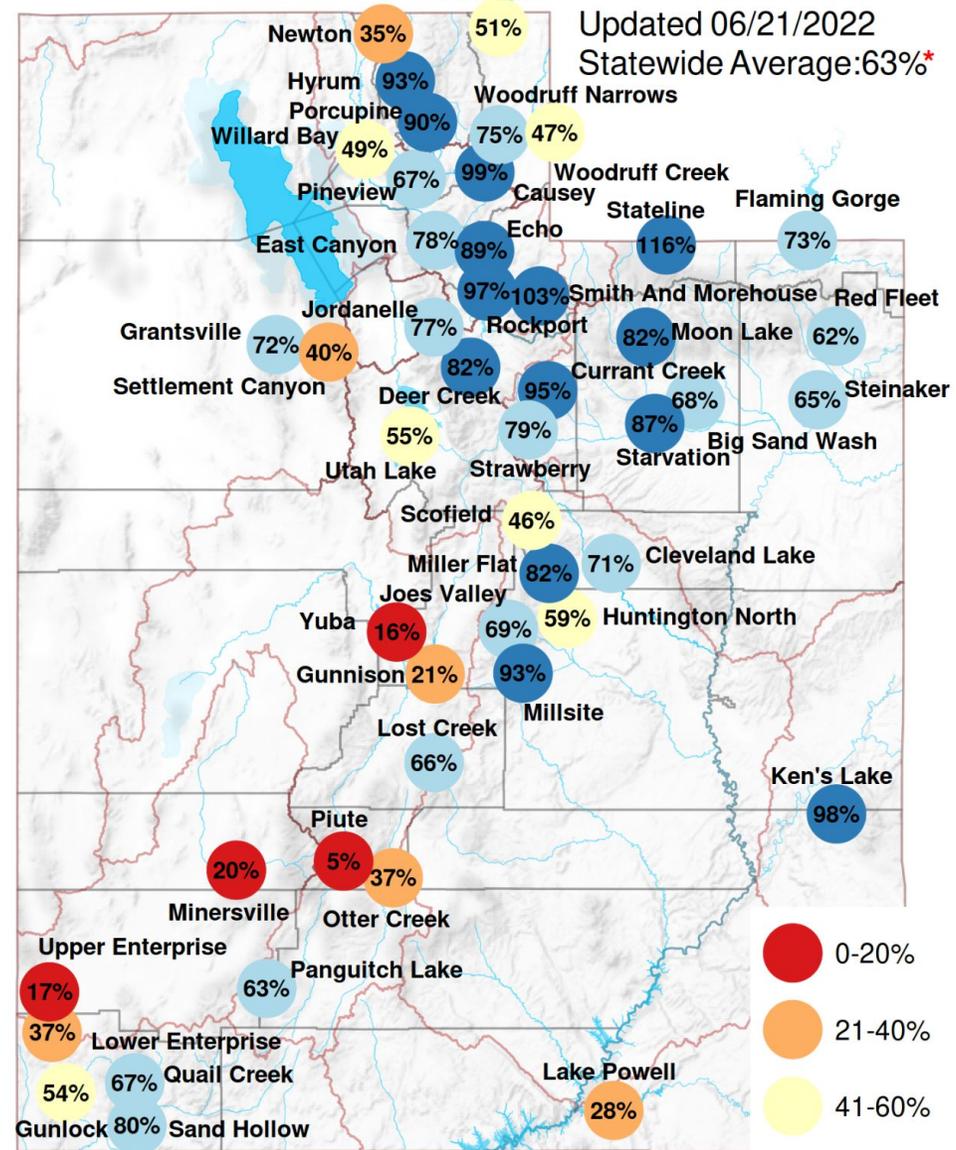
6/20/2022



Agency - BOR  
Presenter - Gary Henrie

# Reservoir Fill %

Updated 06/21/2022  
Statewide Average: 63%\*



Data Sources: [water.utah.gov/reservoirlevels](http://water.utah.gov/reservoirlevels)

\*State average excludes Lake Powell & Flaming Gorge to better represent the state's water supply.

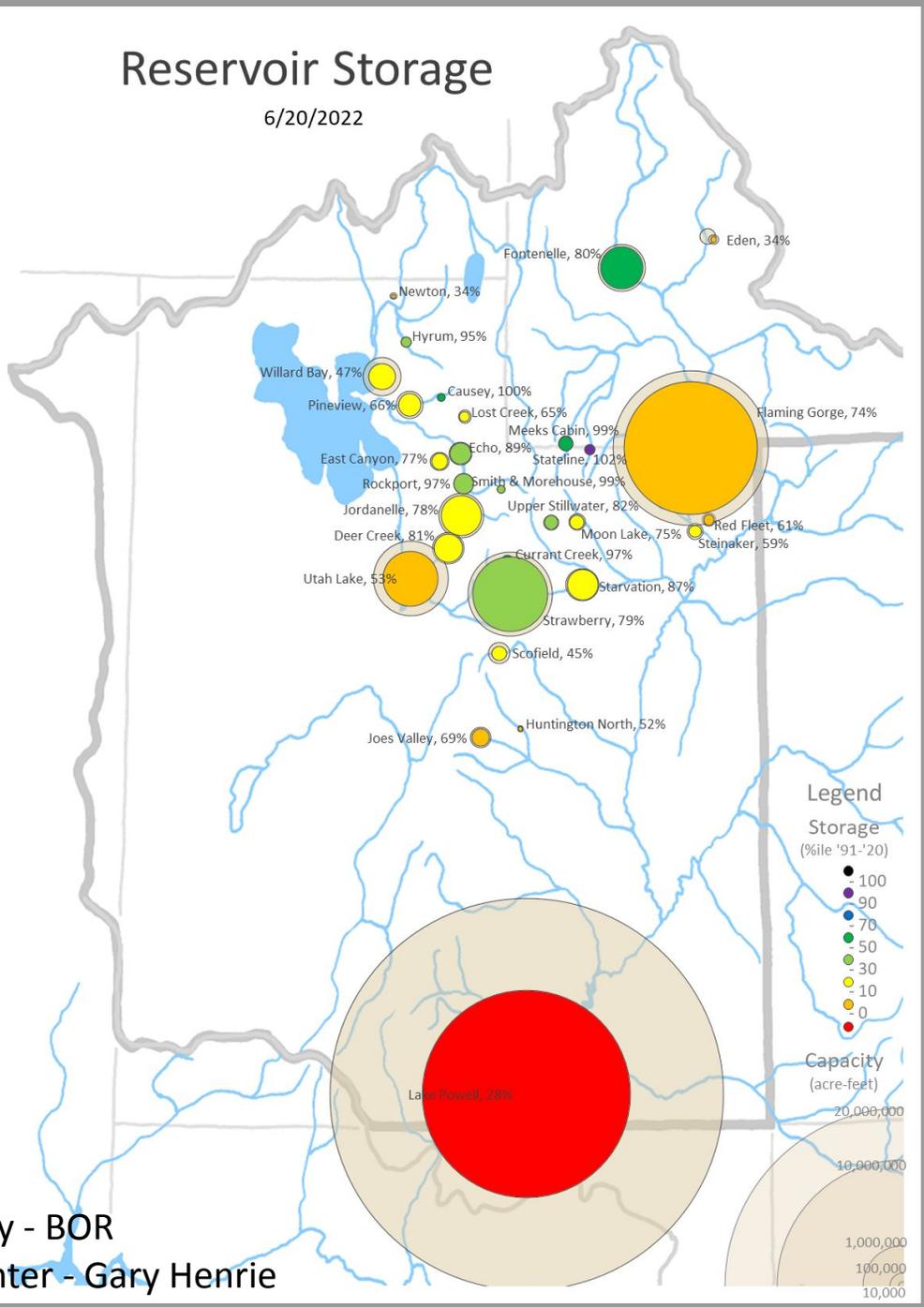
Total capacity including these is 47%



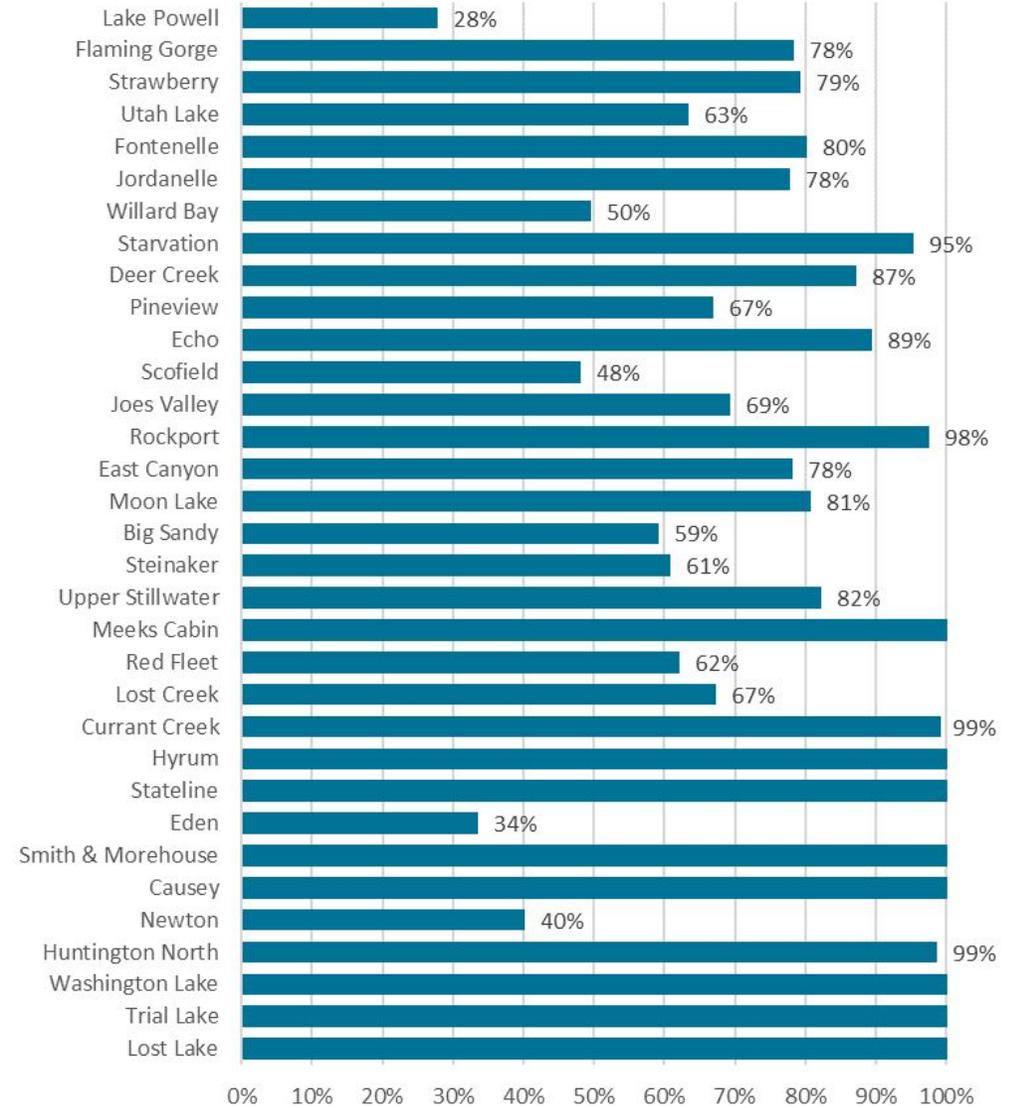
BUREAU OF RECLAMATION

# Reservoir Storage

6/20/2022



## 2022 Peak Reservoir Storage

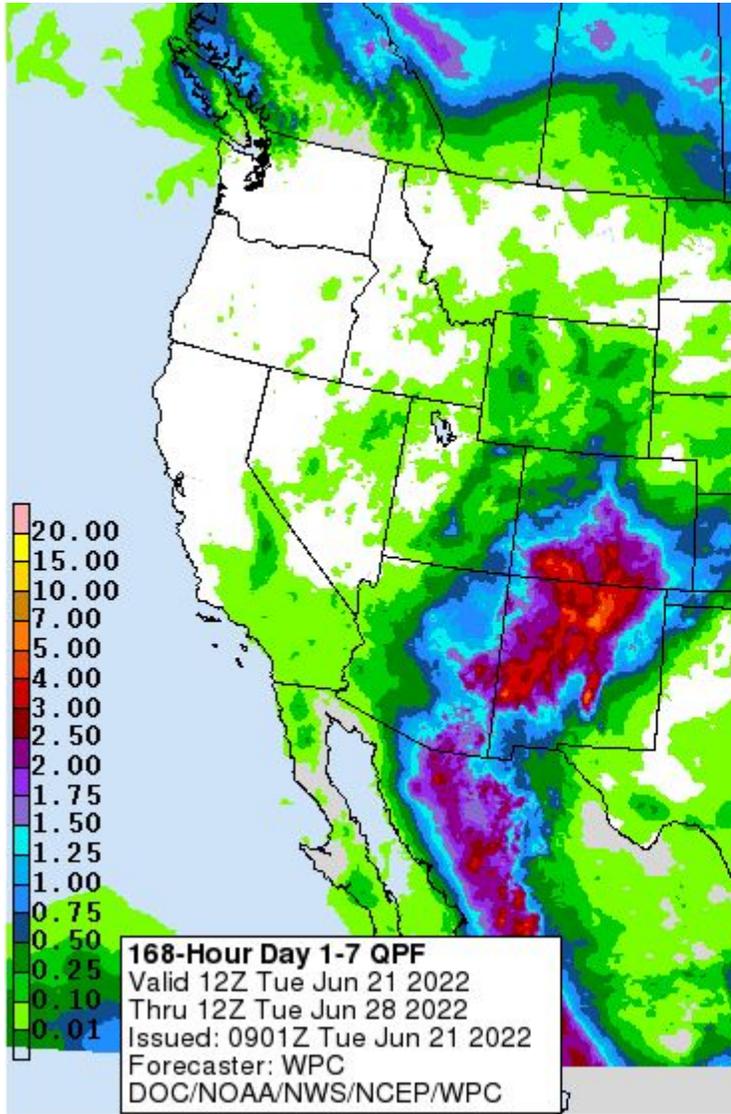


Agency - BOR  
Presenter - Gary Henrie



BUREAU OF RECLAMATION

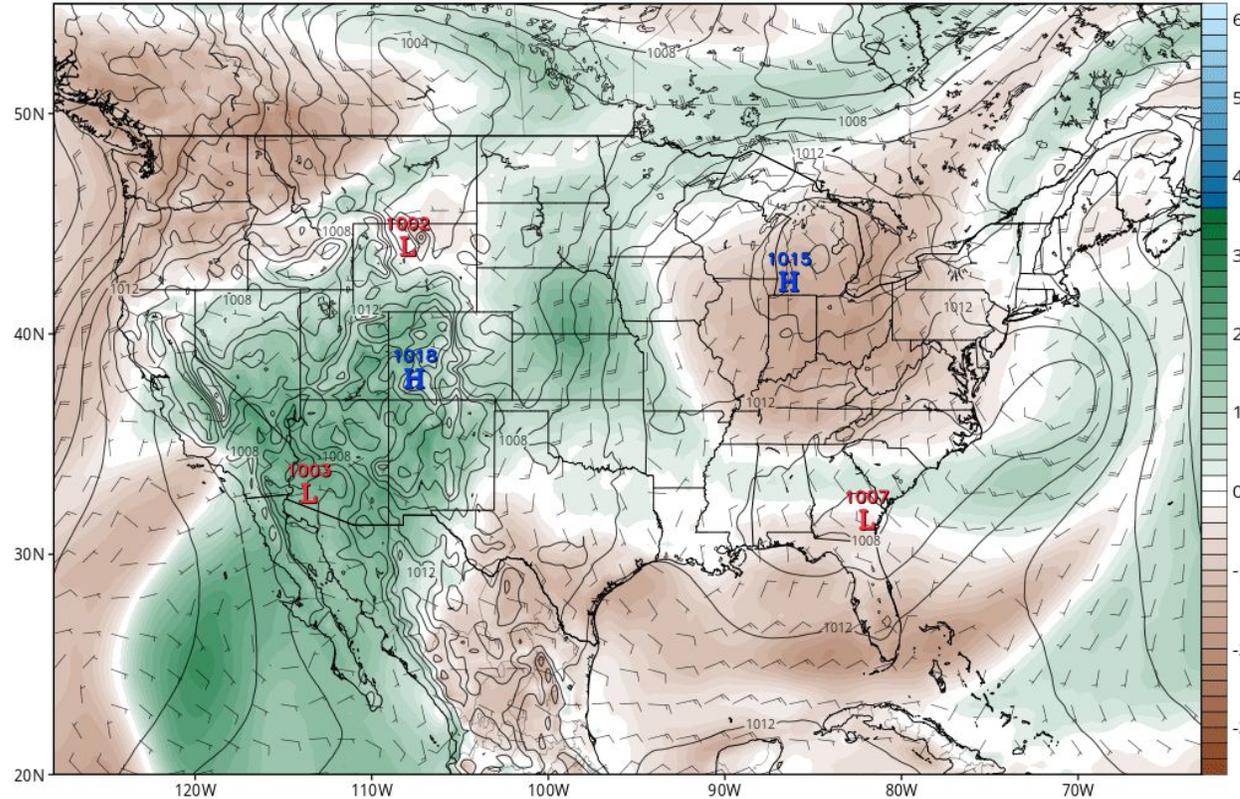
# Weather Forecast Office Utah Day 1-7 Outlook



EPS MSLP (mb), Total Precipitable Water Normalized Anomaly, & 850mb Wind (kt)

Init: 06Z Jun 21 2022 Forecast Hour: [66] valid at 00Z Fri, Jun 24 2022

TROPICALTIDBITS.COM



- An early sub-tropical moisture tap will spread north across the area beginning Wednesday.
- Scattered diurnal showers and thunderstorms expected each day thereafter. Most likely over the mountain spines and southeastern Utah.
- Near to slightly above normal temperatures expected.

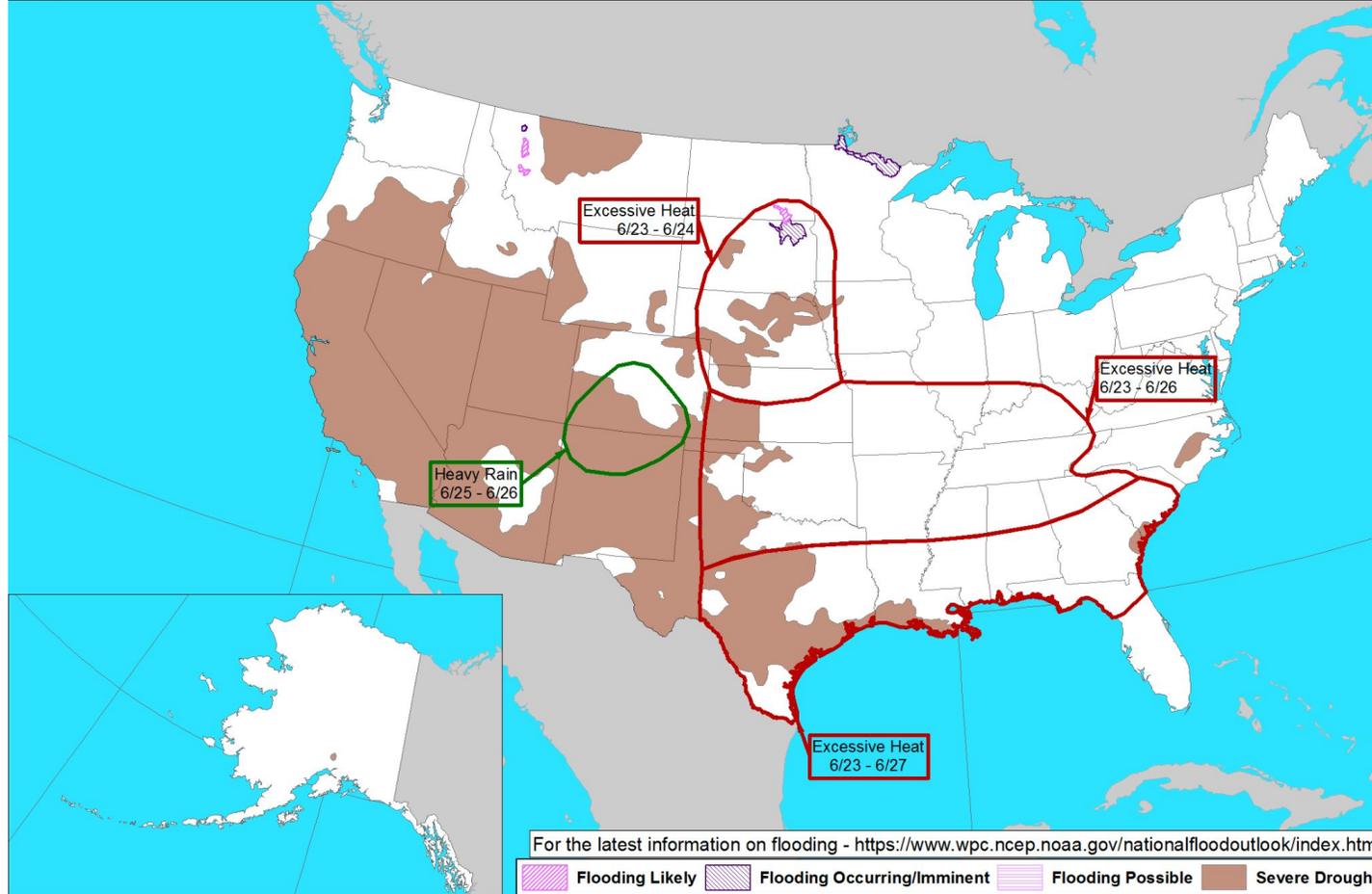
Agency - National Weather Service Weather Forecast Office

Presenter -

# Weather Prediction Center U.S. Day 3-7 Hazards Outlook



Day 3-7 U.S. Hazards Outlook  
Valid: 06/23/2022-06/27/2022



Weather Prediction Center  
Made: 06/20/2022 3PM EDT

Follow us:  [www.wpc.ncep.noaa.gov](https://www.wpc.ncep.noaa.gov)

# Climate Prediction Center 8 to 14 Day Outlooks - Temperature

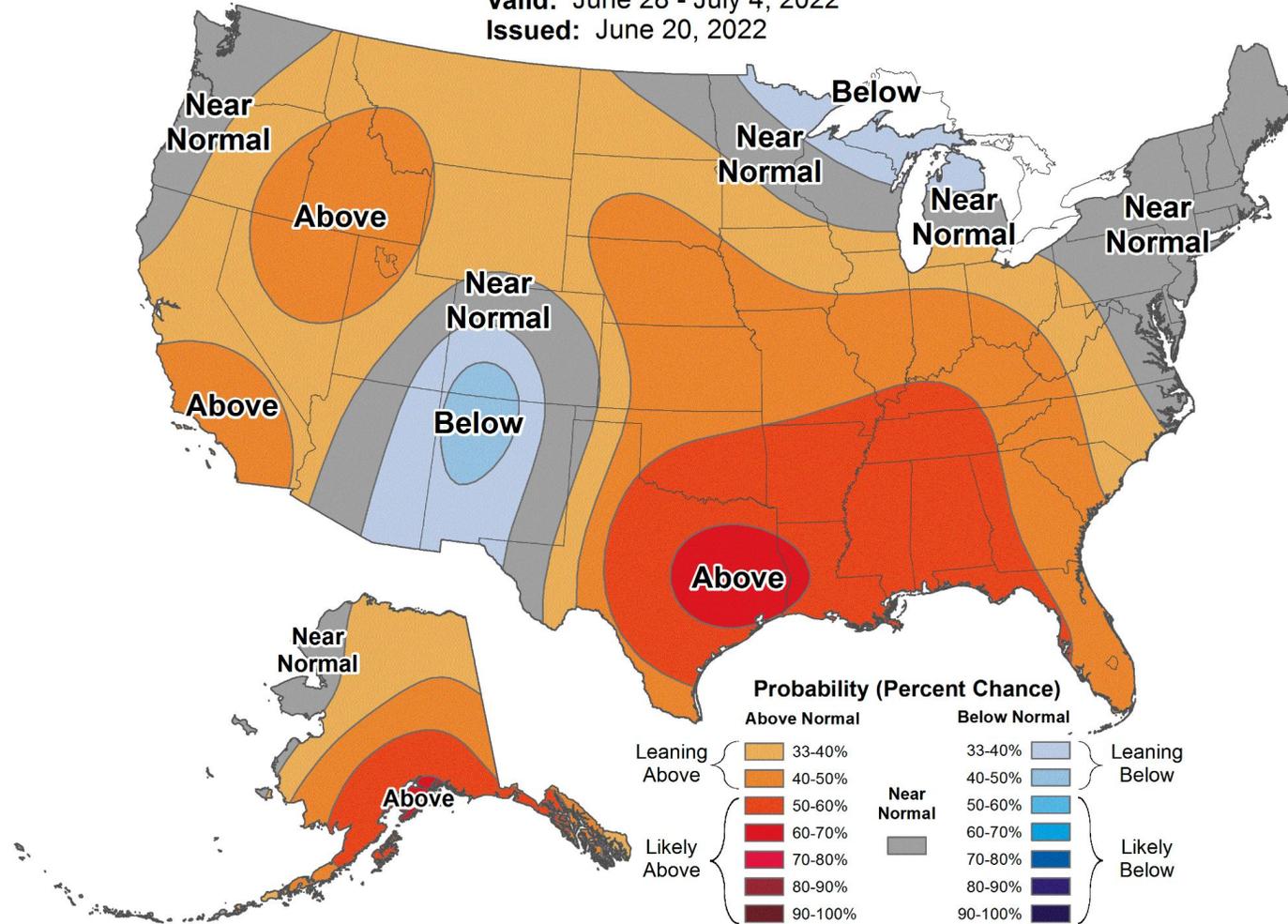


## 8-14 Day Temperature Outlook



Valid: June 28 - July 4, 2022

Issued: June 20, 2022



Agency - National Weather Service Weather Forecast Office

Presenter -

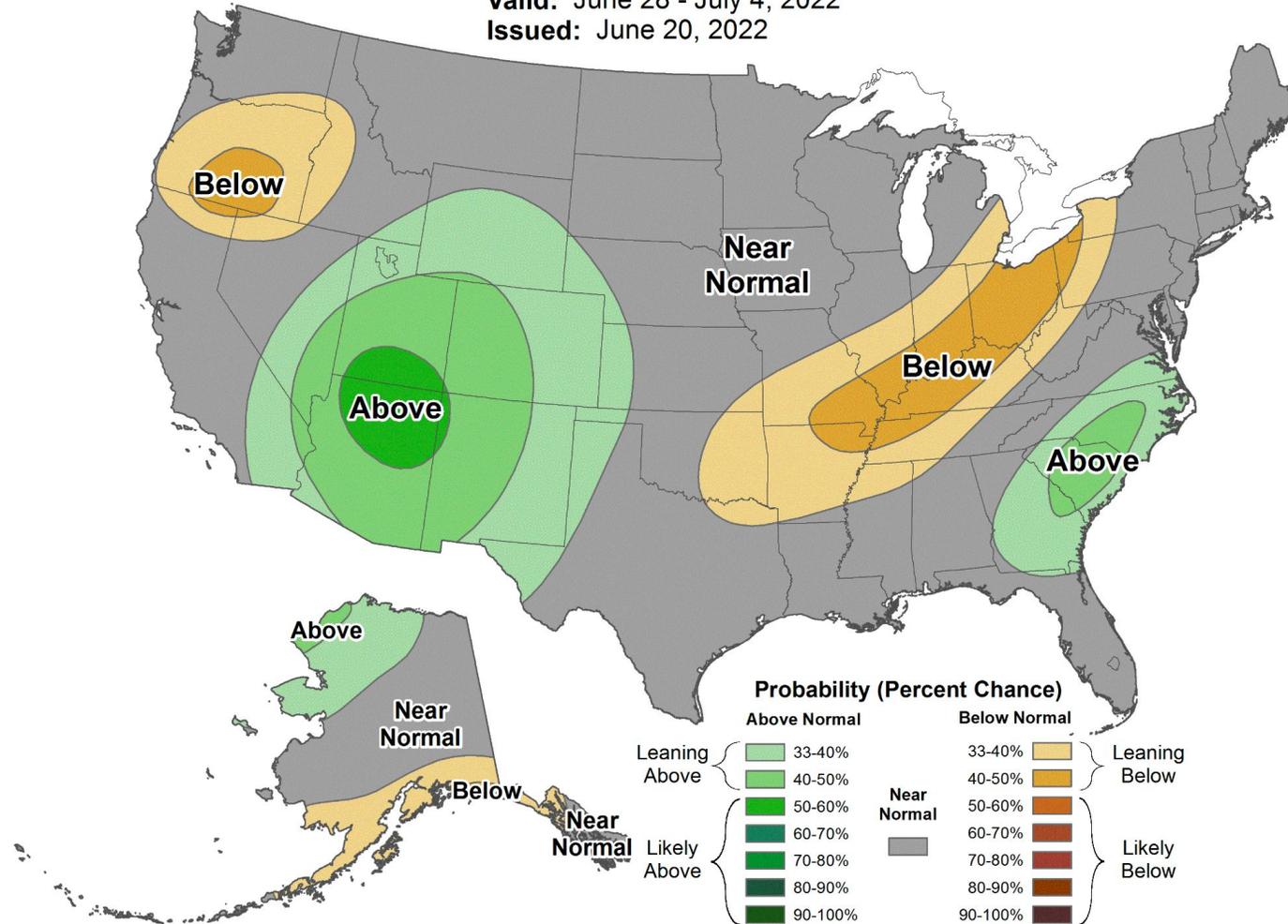
# Climate Prediction Center 8 to 14 Day Outlooks - Precipitation



## 8-14 Day Precipitation Outlook



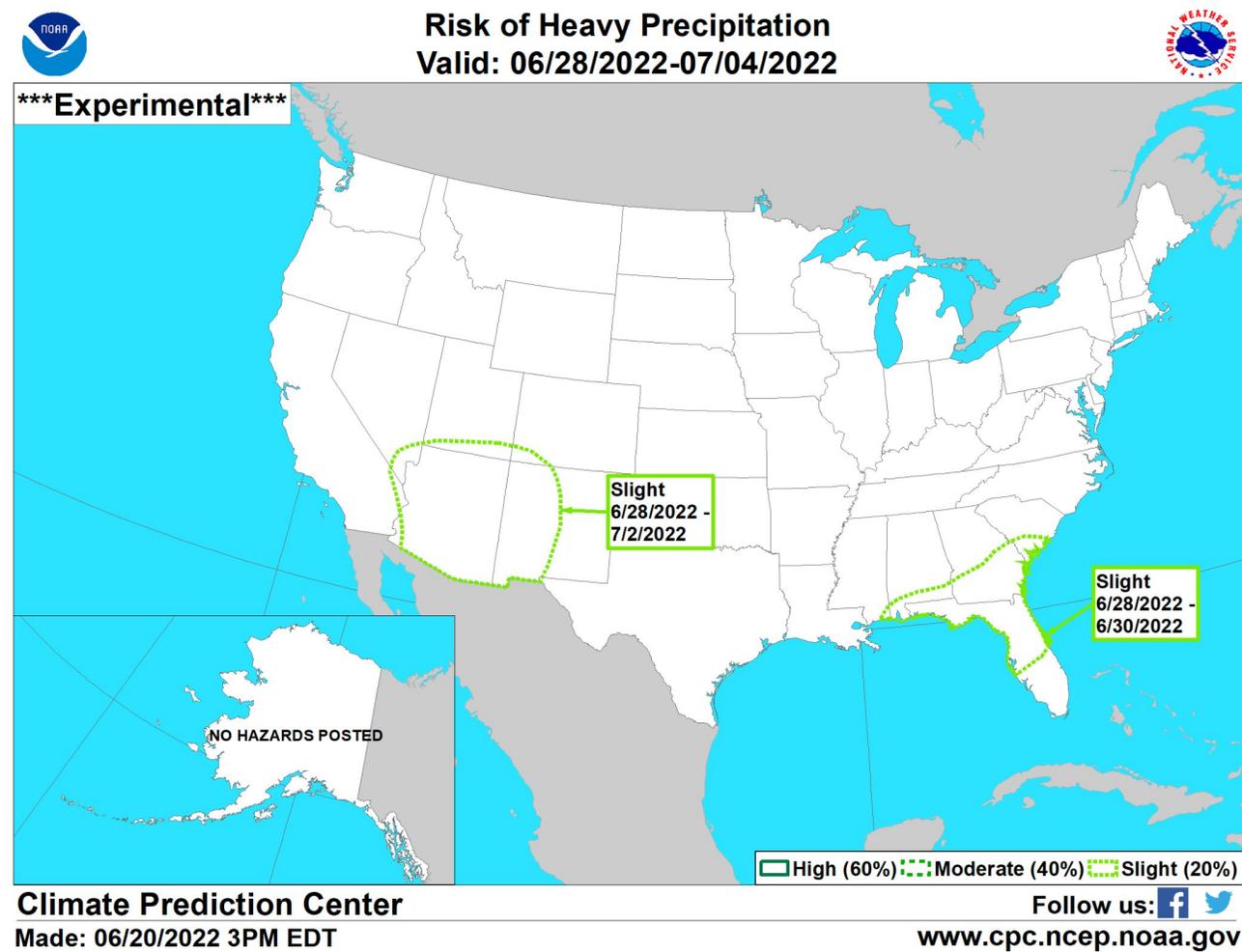
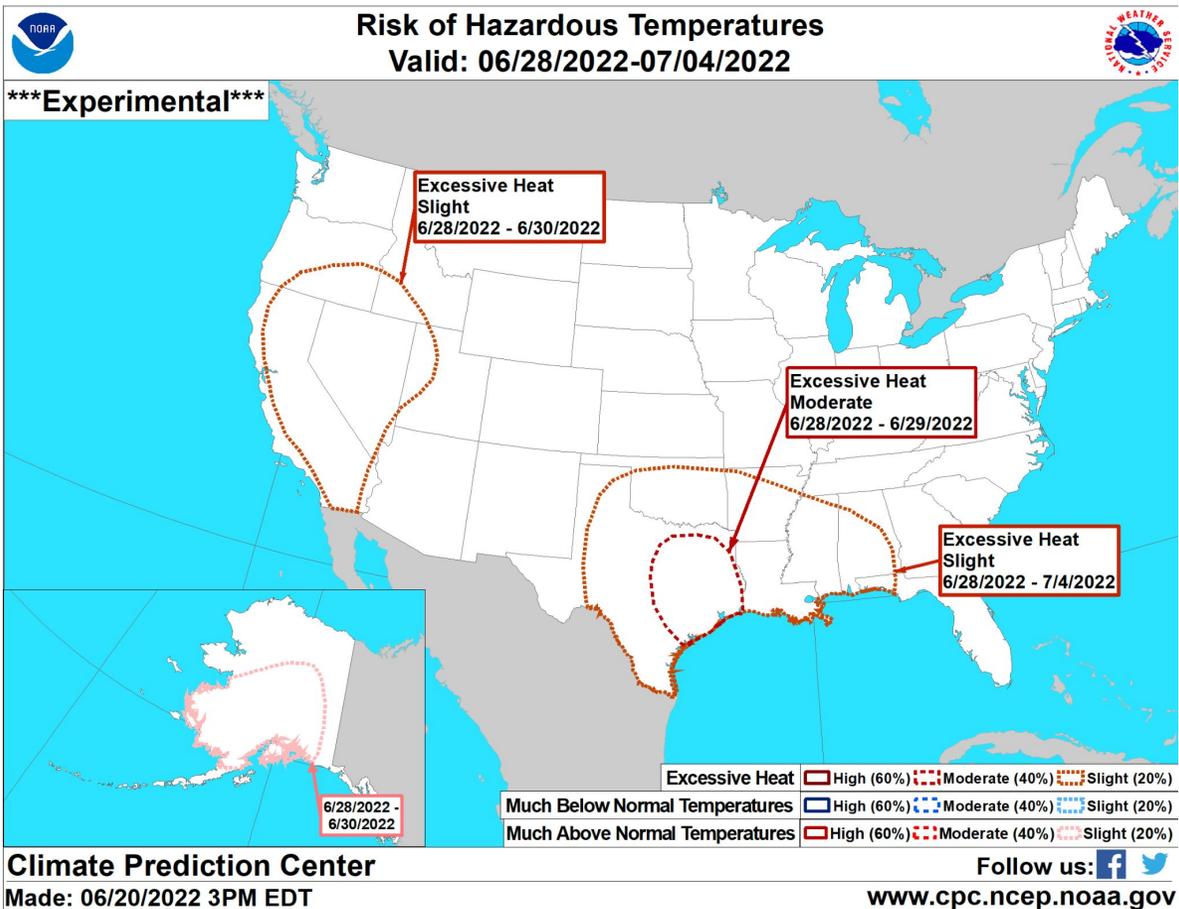
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Issued: June 20, 2022

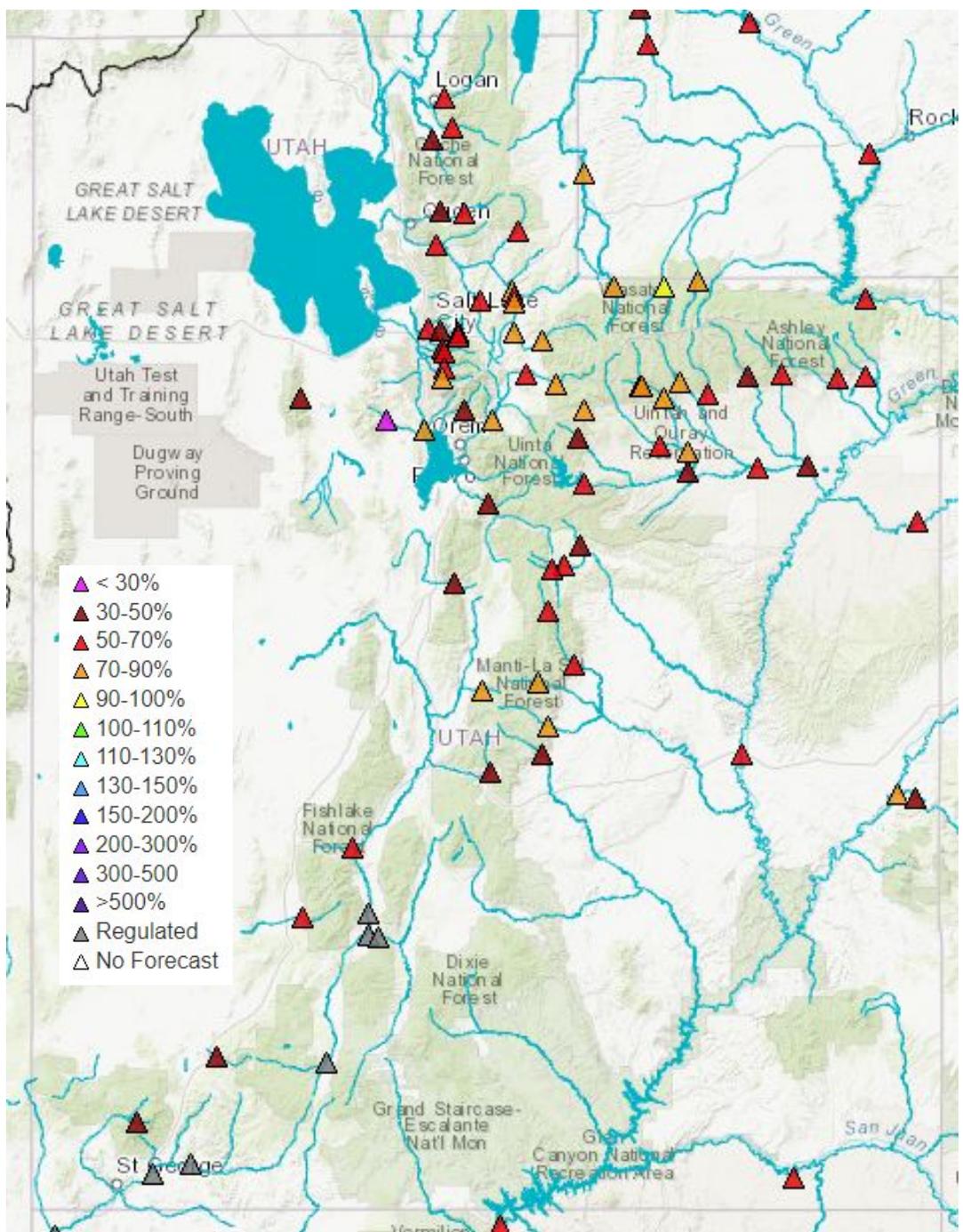


Agency - National Weather Service Weather Forecast Office

Presenter -

# Climate Prediction Center U.S. Week-2 Hazards Outlook





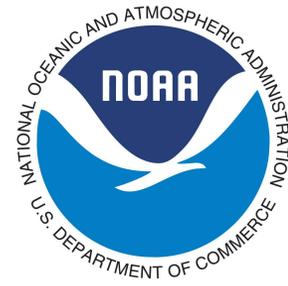
Last mid-month seasonal water supply forecasts for Water Year 2022 were sent out earlier this month. Provisional observed seasonal volumes will be available in early August.

Summer is typically a time for development in our office; we anticipate that we're going to be able to update our verification statistics and metrics. Let us know if there's a priority that we can help you all with. We'll share developments on this call throughout the year.

We remain available to help with your decision support needs; please feel free to contact myself or Patrick.

[paul.miller@noaa.gov](mailto:paul.miller@noaa.gov)

[patrick.kormos@noaa.gov](mailto:patrick.kormos@noaa.gov)



USDA NOAA & NRCS FORECAST COMPARISON TOOL FORECASTING PARADIGMS

AREA: GREEN COLORADO SAN JUAN GREAT SEVIER VIRGIN LOWER COLORADO MONTH: JAN FEB MAR APR MAY JUN YEAR: 2022 2021 2020 PROBABILITY: MIN 90 P 70 MOST PROB P 30 MAX 10

COLUMNS FILTERS DENSITY EXPORT AVERAGE MEDIAN

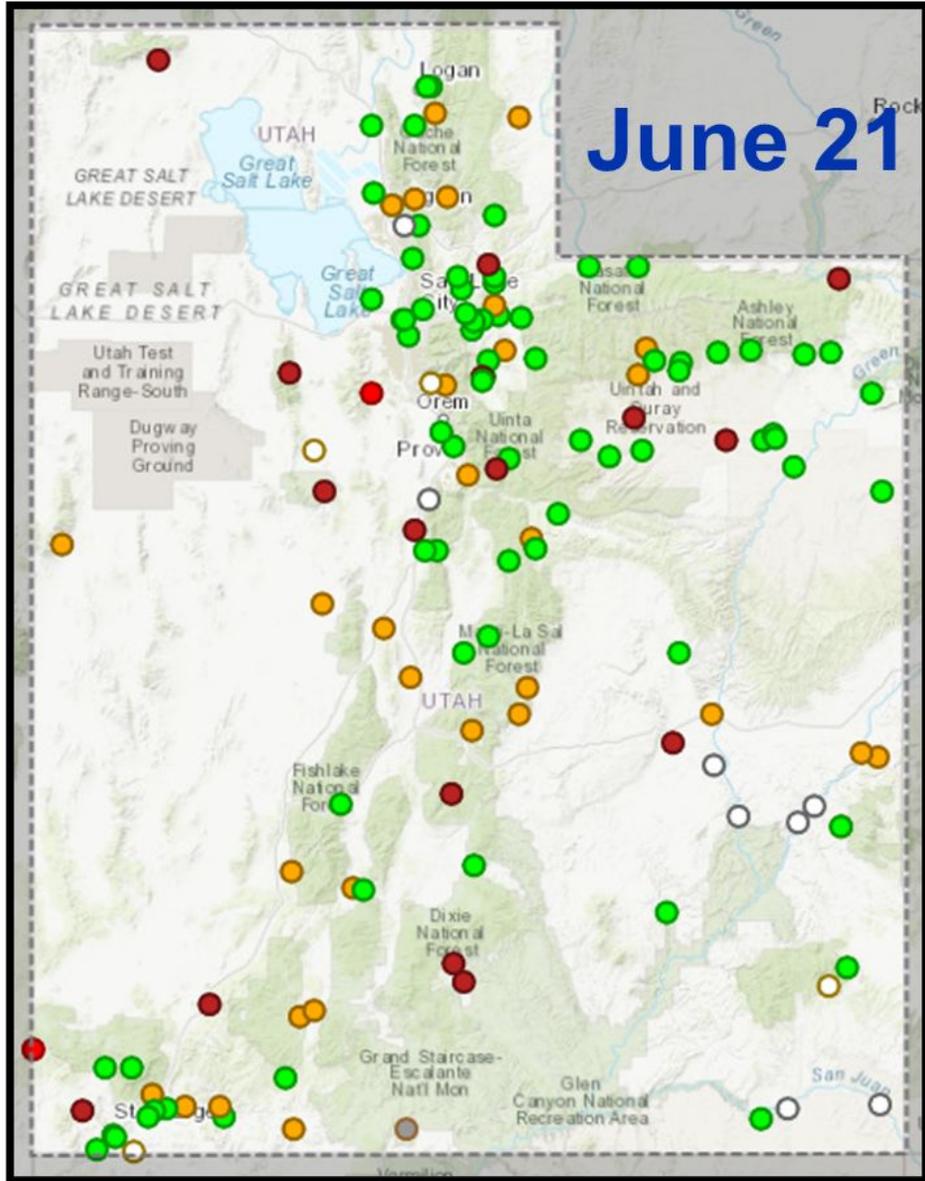
Area	Stator ID	USGS Station ID	River	Location	Fcst Period	CBRFC Fcst (KAF)	CBRFC Avg (KAF)	RFC % of Avg	NRCS Fcst (KAF)	NRCS Avg (KAF)	NRCS % of Avg	Difference (NRCS-CBRFC)	Difference % (NRCS-CBRFC)
UT	SL	AFFU1	AMERICAN FORK	AMERICAN FORK; NR; UP PWRPLNT; ABV	6-7	5.8	16	36					
UT	SL	BCTU1	BIG COTTONWOOD CK	SALT LAKE CITY; NR	6-7	10.6	18	60					
UT	SL	BERU1	10011500 BEAR	UTAH	4-7	82	109	75	94	109	86	12	14
UT	SL	CASU1	SPANISH FORK	CASTILLA; NR	6-7	6.5	19	35					
UT	SL	CCSU1	CITY CK	SALT LAKE CITY; NR	6-7	1.68	3	54					
UT	SL	CIVU1	CHALK CK	COALVILLE	6-7	5.7	13	43					
UT	SL	CLLU1	WEBER	COALVILLE; NR	6-7	25	55	45					
UT	SL	CRAU1	LOST CK	LOST CK RESERVOIR; CROYDEN; NR	6-7	1.15	3	37					
UT	SL	DCRU1	PROVO	DEER CK RESERVOIR	6-7	24	50	48					
UT	SL	DELU1	DELL FK	LITTLE DELL RESERVOIR	6-7	0.38	1	28					
UT	SL	ECBU1	WEBER	ECHO RESERVOIR; ECHO; AT	6-7	29	66	44					
UT	SL	ECRU1	EAST CANYON CK	EAST CANYON RESERVOIR; MORGAN; NR	6-7	2.8	7	41					
UT	SL	GATU1	WEBER	GATEWAY	6-7	35	92	38					
UT	SL	HRMU1	10113500 BLACKSMITH FORK	HYRUM; NR; UPNL DAM; ABV	4-7	19.2	37	52	21	37	57	1.8	9
UT	SL	LAMU1	LAMBS CK	SALT LAKE CITY; NR	6-7	0.79	2	34					

We now have a website accessible through our main page that will compare CBRFC and NRCS forecasts. Updates for this page will begin again in January for Water Year 2023, but shows water supply forecasts for all CBRFC and NRCS locations, and compares them where they overlap.

# Current Streamflow Conditions

June 7

June 21



\*Sites must have at least 10 years of streamflow record to be ranked on this graphic

Day-of-Year Status	% Gages	% Gages
All-time high for this day-of-year	0.0%	0.0%
Much above normal for this day-of-year	0.0%	0.0%
Above normal for this day-of-year	0.0%	0.0%
Normal for this day-of-year	44.9%	54.4%
Below normal for this day-of-year	30.1%	22.8%
Much below normal for this day-of-year	14.0%	11.8%
All-time low for this day-of-year	2.2%	1.5%
Not ranked - insufficient record	6.6%	6.6%
Not ranked - stream not flowing	0.7%	2.2%
Not ranked - no measurement	1.5%	0.7%

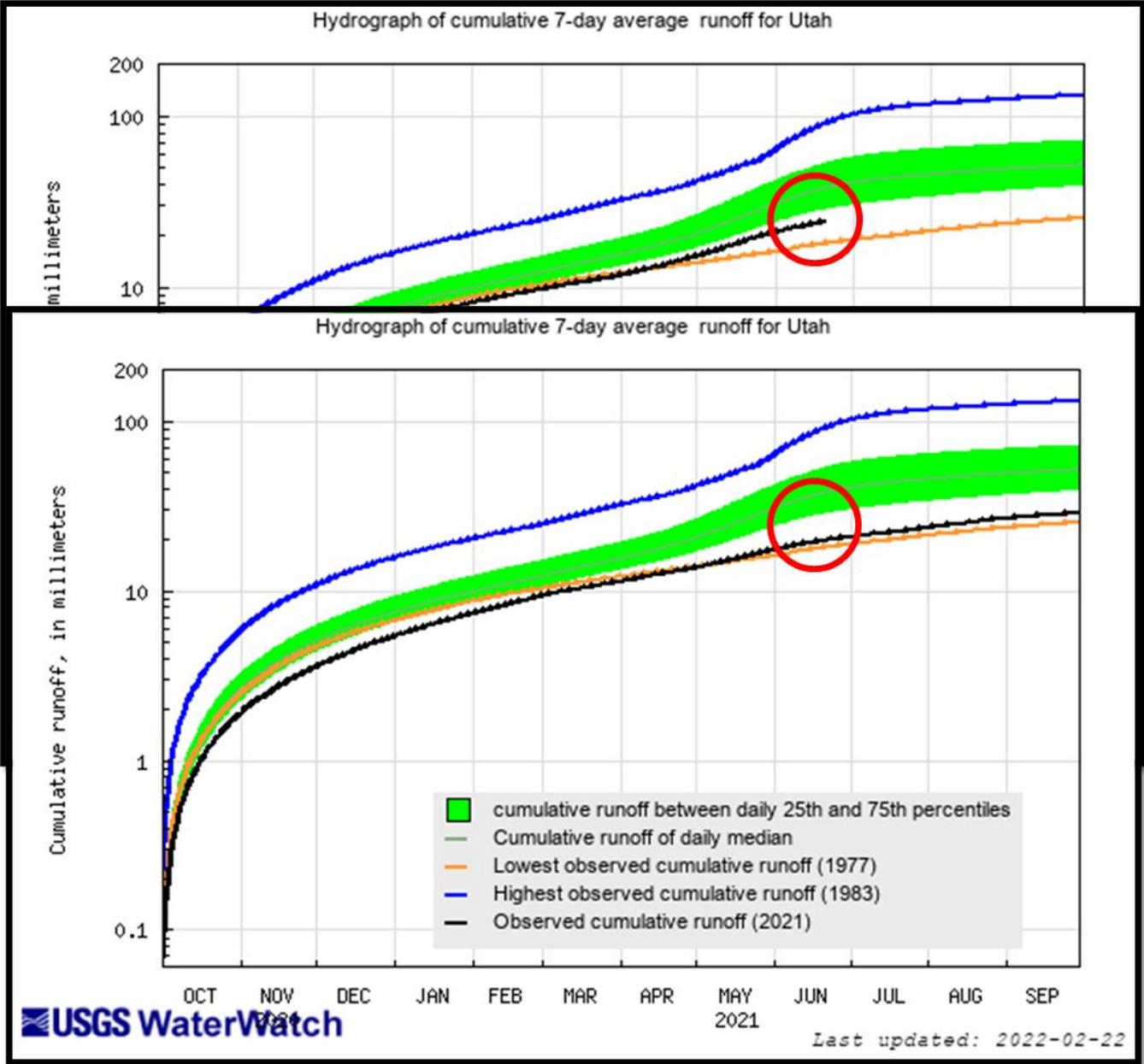
**Streamflow: Status**

- Above flood stage
- All-time high for this day (100<sup>th</sup> percentile (maximum))
- Much above normal (>90<sup>th</sup> percentile)
- Above normal (76<sup>th</sup> – 90<sup>th</sup> percentile)
- Normal (25<sup>th</sup> – 75<sup>th</sup> percentile)
- Below normal (10<sup>th</sup> – 24<sup>th</sup> percentile)
- Much below normal (<10<sup>th</sup> percentile)
- All-time low for this day (0<sup>th</sup> percentile (minimum))
- Not flowing
- Not ranked
- Measurement flag
- Recent measurement unavailable

Agency - USGS Utah WSC  
 Presenter - Ryan Rowland

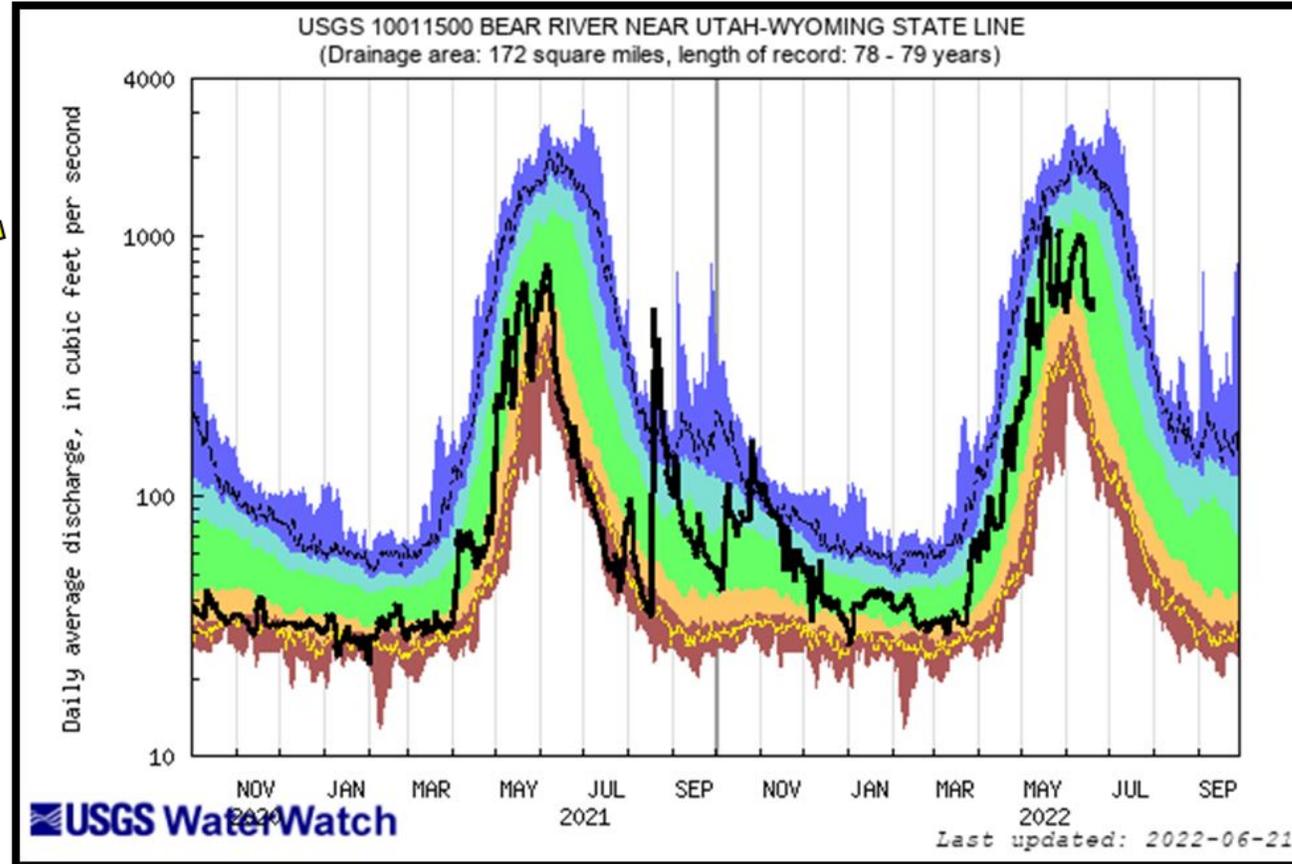
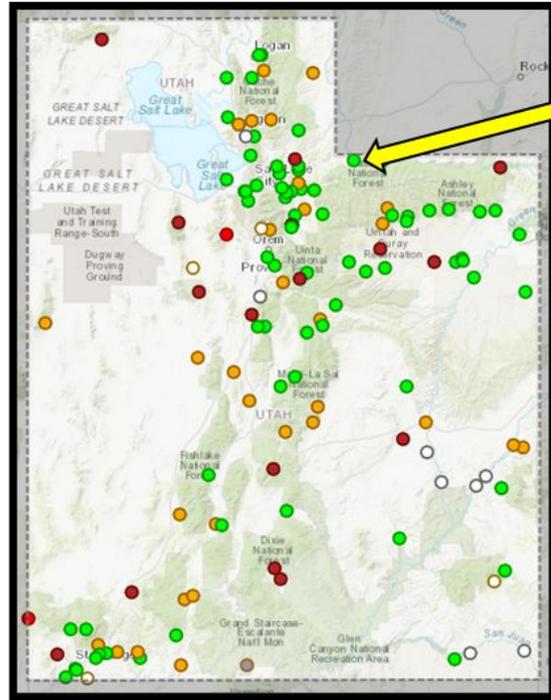


# Area Based Cumulative Runoff for Utah



□ Area based runoff computed from mixed regulated and unregulated streamflows

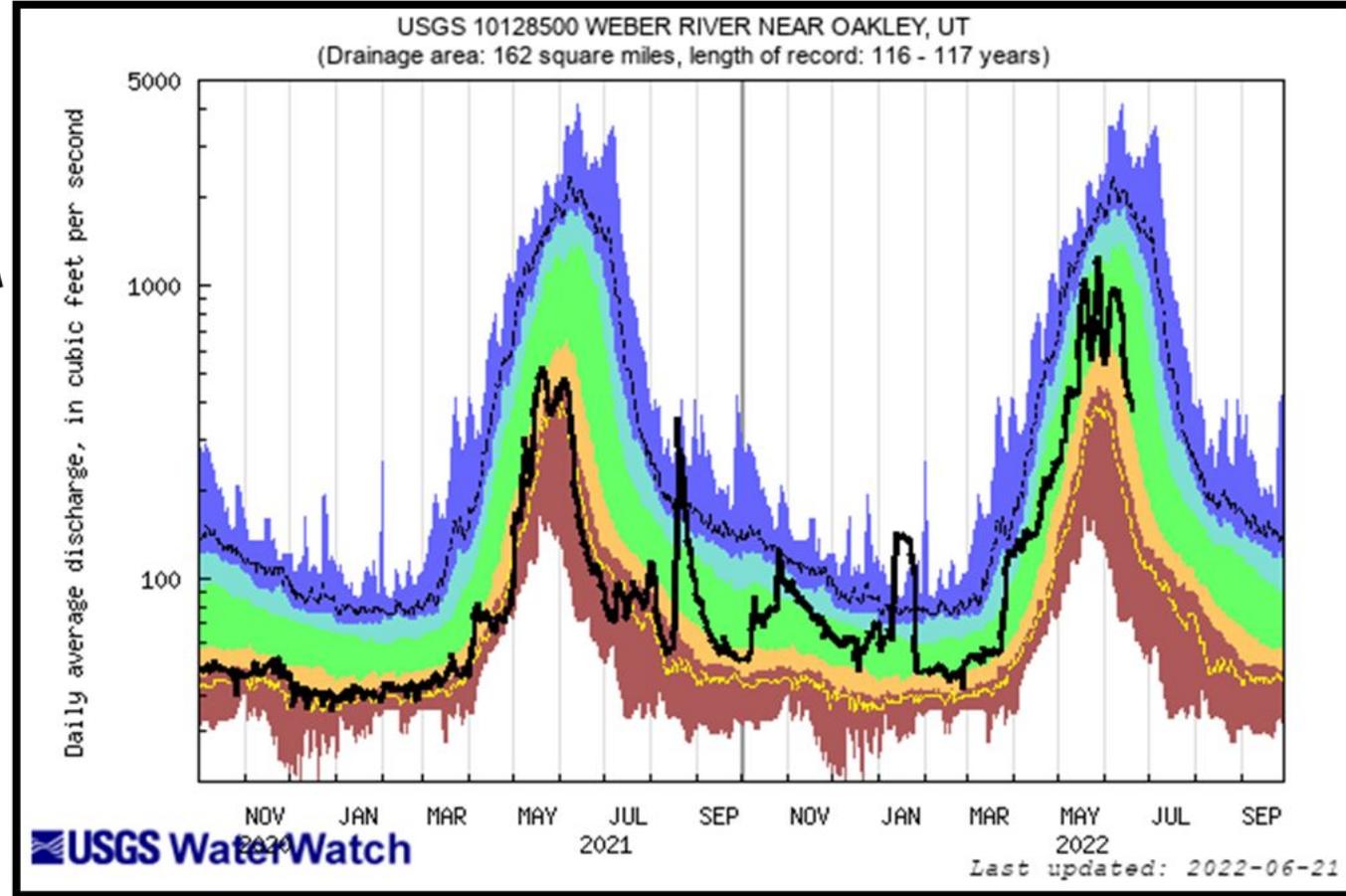
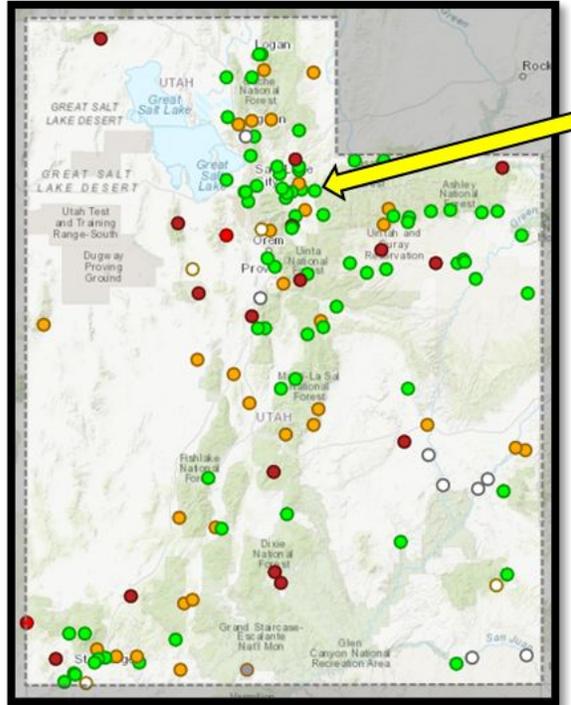
# Streamflow at Selected Gages



Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

Agency - USGS Utah WSC  
Presenter - Ryan Rowland

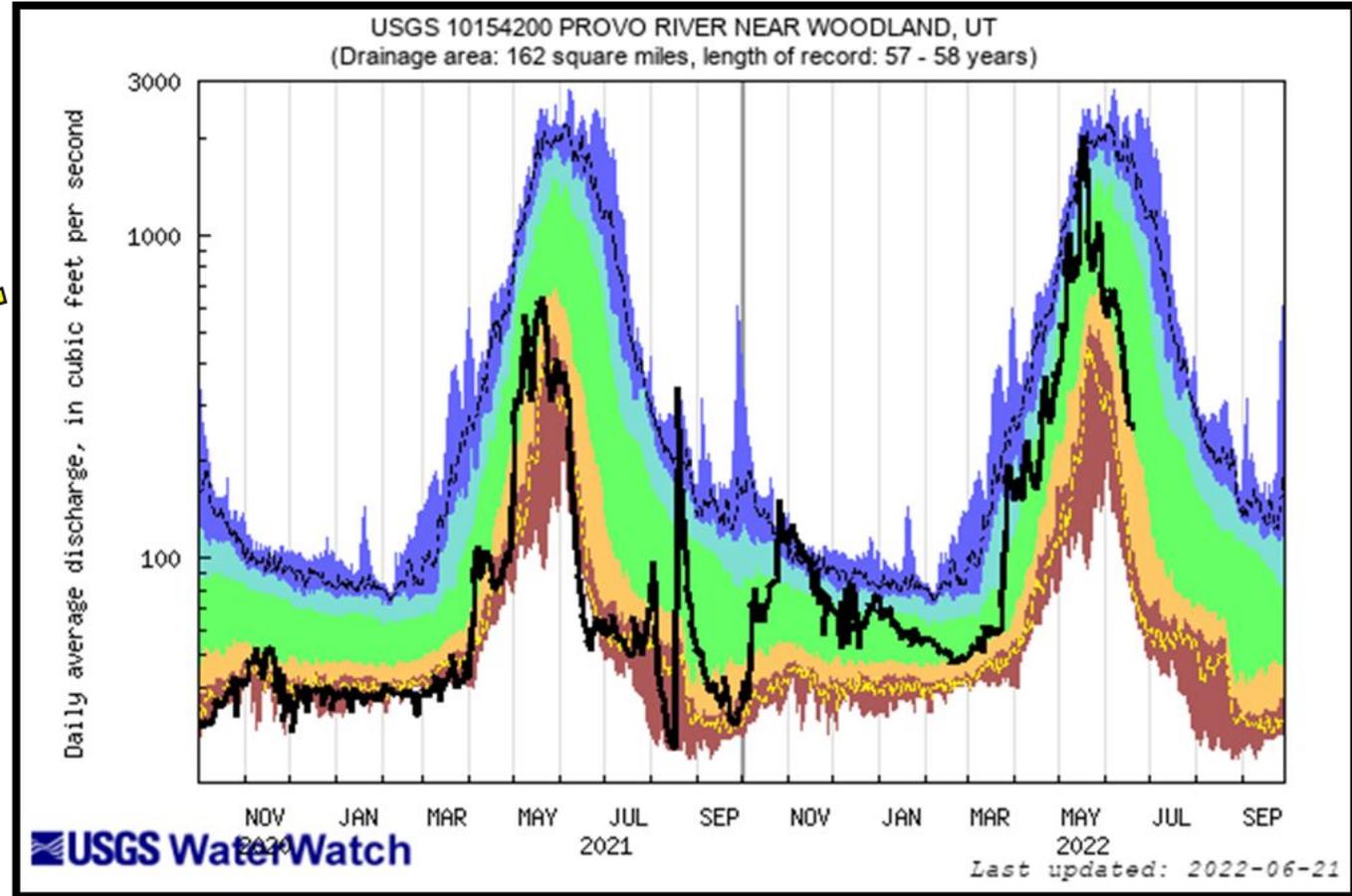
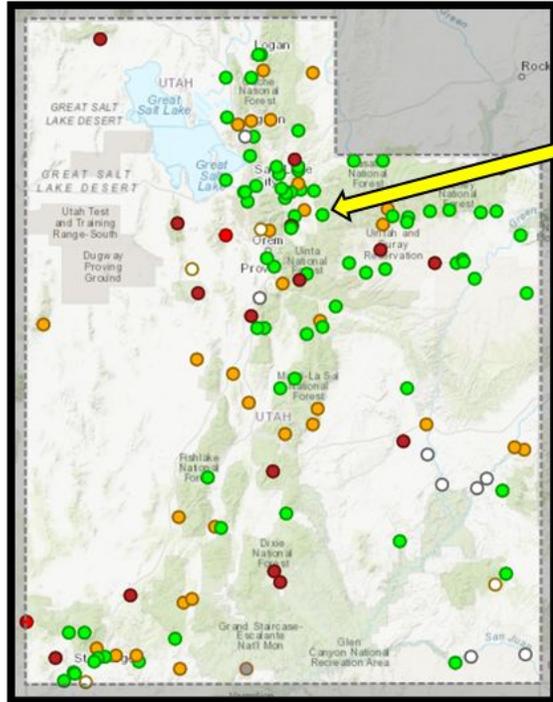
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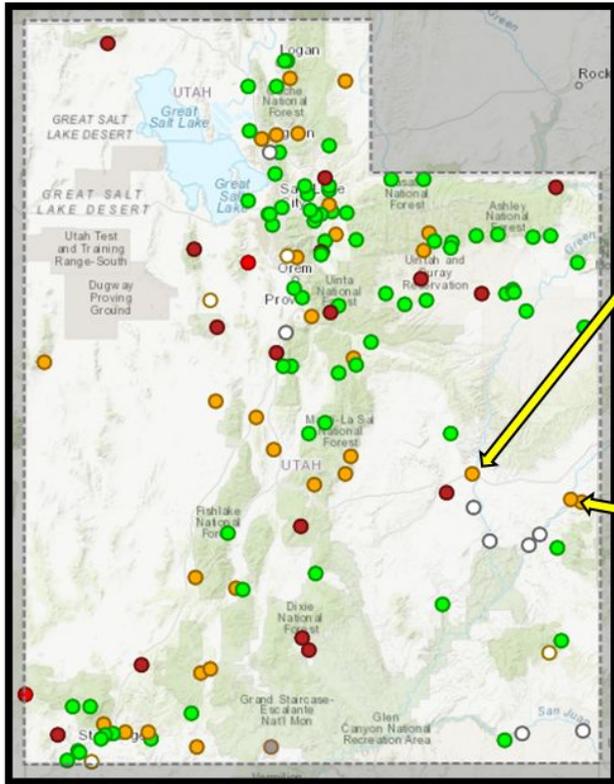


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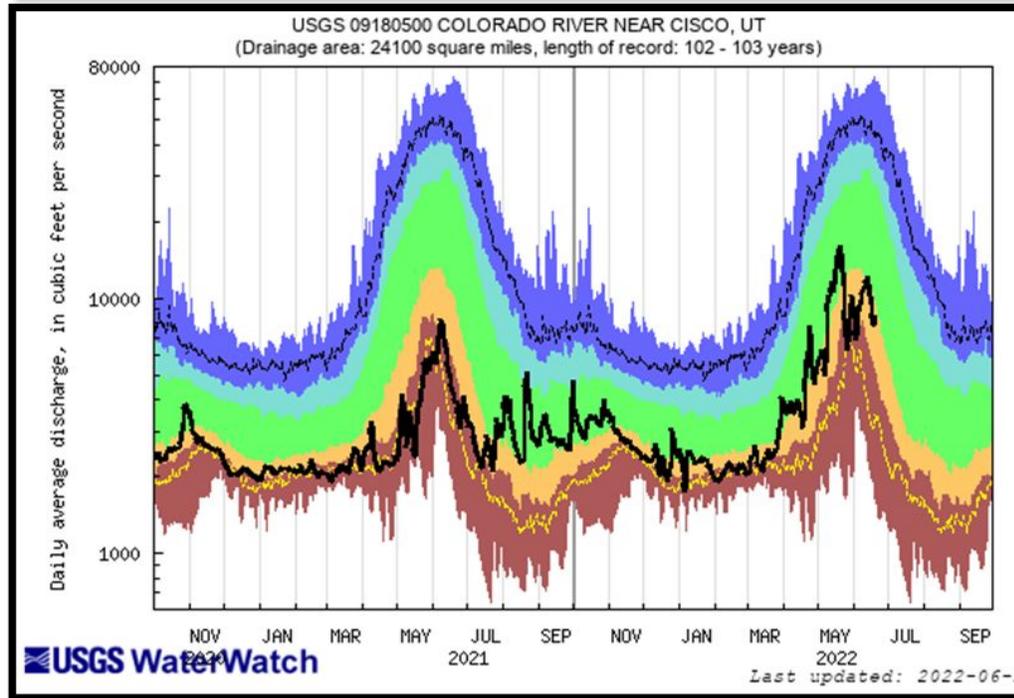
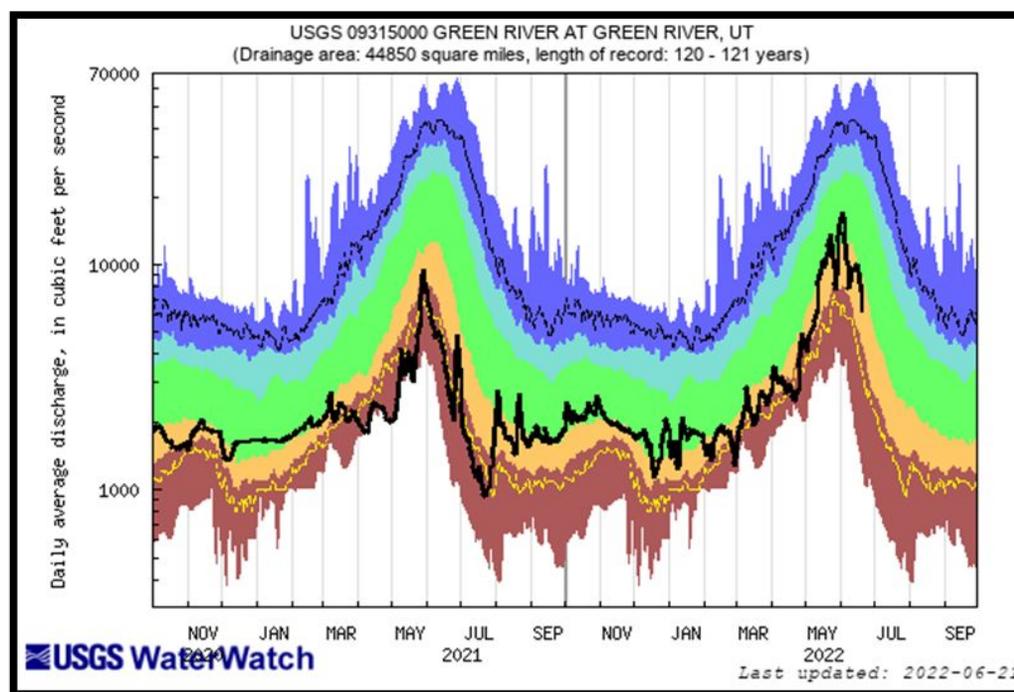
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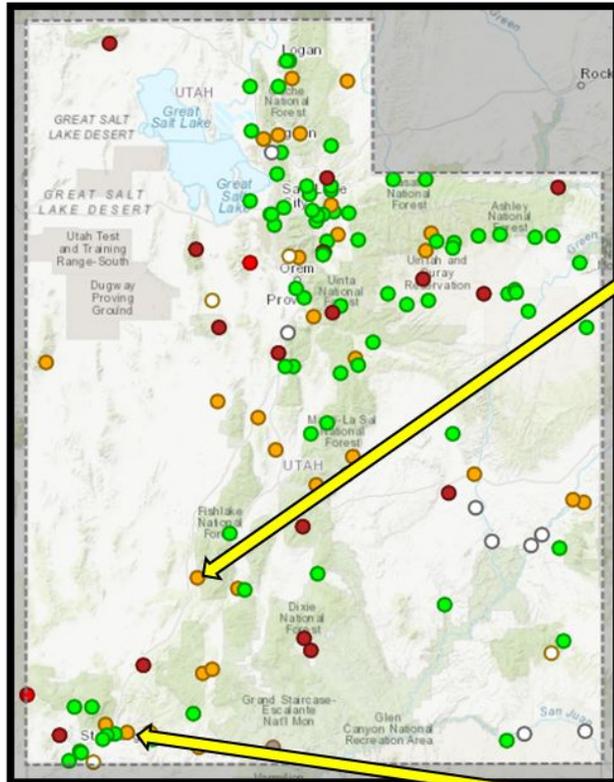


Explanation - Percentile classes

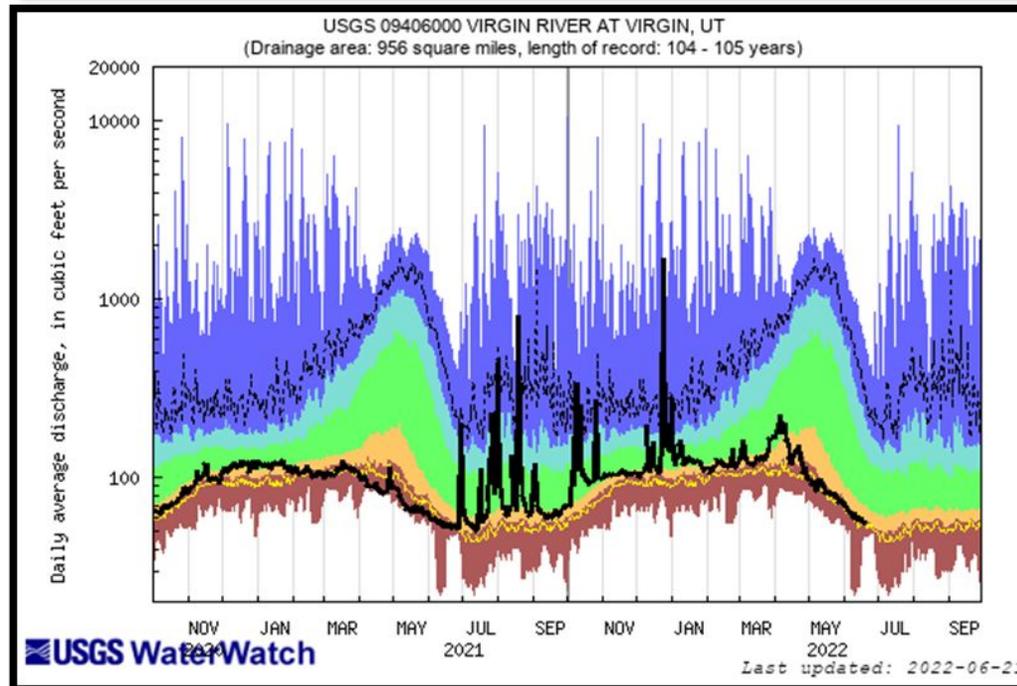
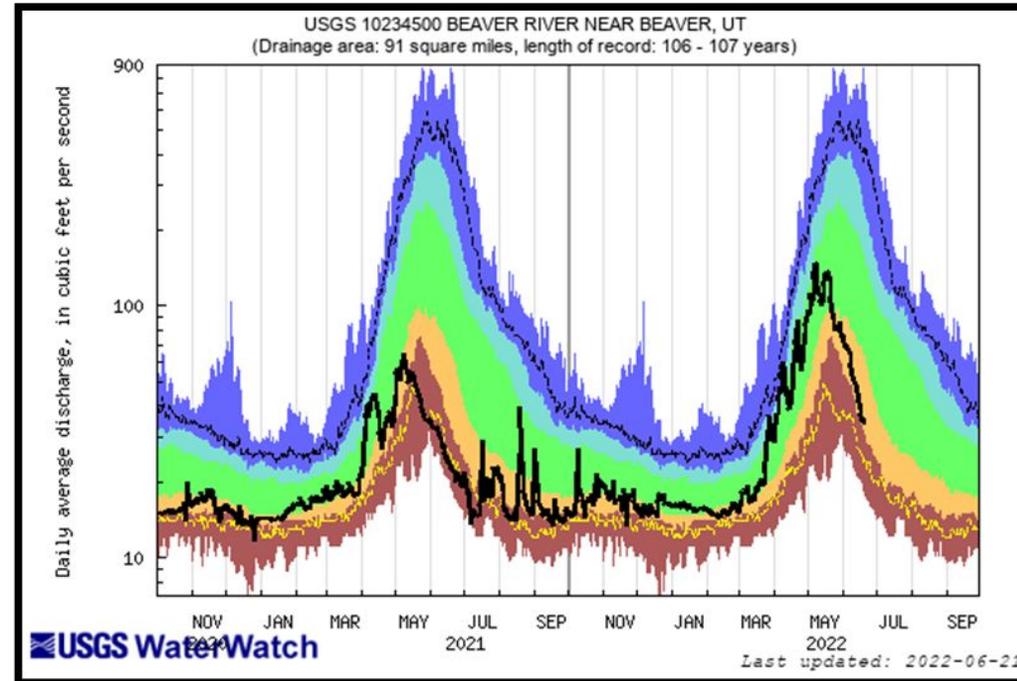
Color	Percentile Class	Description
Dark Blue	lowest-10th percentile	Much below Normal
Light Blue	5	Below normal
Green	10-24	Normal
Yellow	25-75	Above normal
Orange	76-90	Much above normal
Red	95	Much above normal
Black	90th percentile - highest	Flow



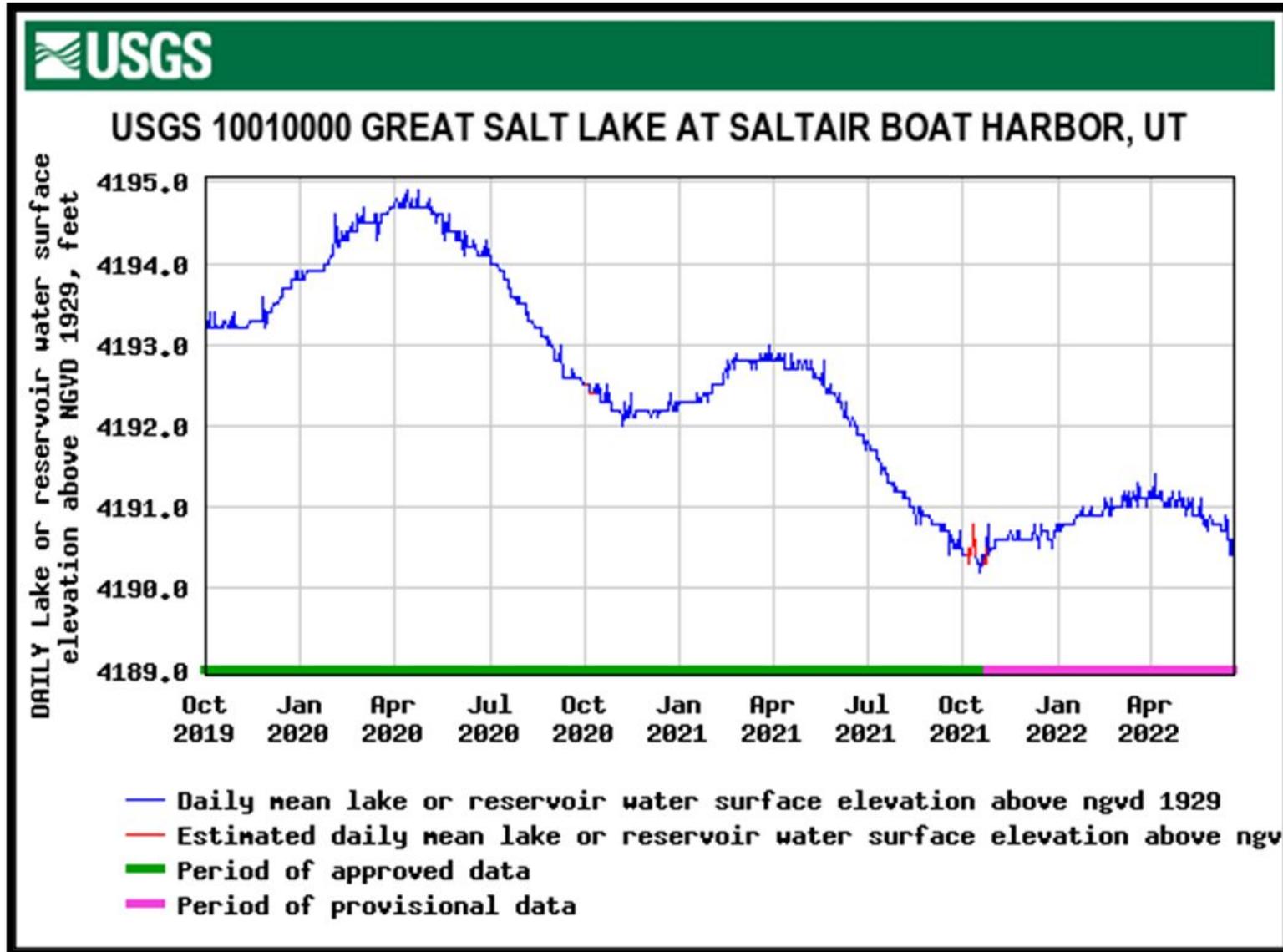
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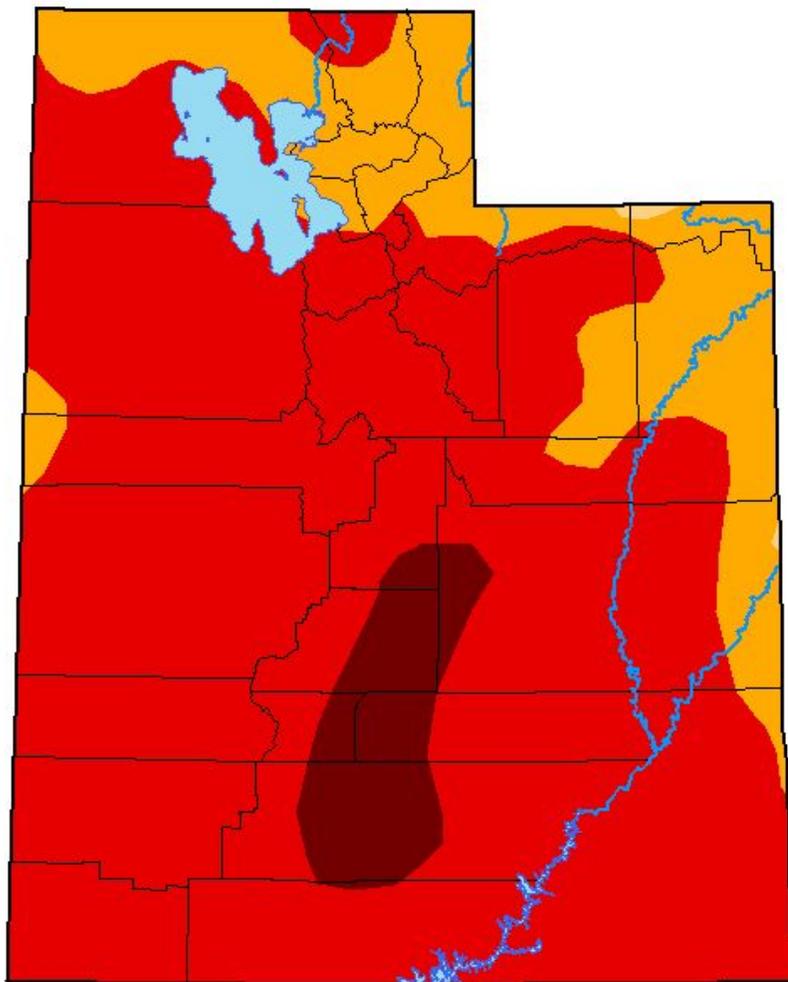
# Great Salt Lake Water Surface Elevation



- ❑ Mean daily value 6/21/2022 = 4,190.6'
- ❑ Mean daily value 6/6/2022 = 4,190.8'
- ❑ 4,190.2' 10/18/2021 (historic low)

# U.S. Drought Monitor Utah

**June 14, 2022**  
(Released Thursday, Jun. 16, 2022)  
Valid 8 a.m. EDT



### Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

### Author:

Adam Hartman  
NOAA/NWS/NCEP/CPC



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)